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Course: Math 10

Week 1 Quiz

A shape with a total of four sides, where both sides and angles opposite each other are congruent is called:
a) Rhombus
b) Trapezoid
c) Square
d) Rectangle

Which of the following is true about an equilateral triangle?
a) It has equal sides and angles
b) It has three unequal sides and angles
c) It has two equal sides and angles
d) It has a right angle

A line segment that connects any two non-adjacent corners of a polygon is called:
a) Perpendicular bisector
b) Altitude
c) Median
d) Diagonal

If two angles add up to 180 degrees, they are:
a) Obtuse
b) Acute
c) Right
d) Supplementary

What is the geometric term for a point where three or more lines intersect?
a) Intersection point
b) Vertex
c) Circumcenter
d) Incenter

A three-dimensional figure where all six faces are rectangles is called a:
a) Pyramid
b) Octahedron
c) Prism
d) Cube

A triangle with two equal sides and two equal angles is called:
a) Right triangle
b) Obtuse triangle
c) Isosceles triangle
d) Scalene triangle

If two angles are complementary, their sum is equal to:
a) 45 degrees
b) 90 degrees
c) 180 degrees
d) 270 degrees

The measure of the space occupied by a three-dimensional object is called:
a) Area
b) Volume
c) Perimeter
d) Circumference

Which of the following is an example of a quadrilateral?
a) Circle
b) Square
c) Equilateral triangle
d) Hexagon

Answers:

1. d;
2. a;
3. d;
4. d;
5. b;
6. c;
7. c;
8. b;
9. b;
10. b.

Week 2 Quiz

Question 1. What does a transformation do to a shape?
a. Changes its color
b. Changes its position, size, or orientation
c. Changes its texture
d. Changes its material

Question 2. What is a translation in terms of transformations?
a. A slide
b. A flip
c. A turn
d. A stretch

Question 3. What is a reflection in terms of transformations?
a. A slide
b. A flip

c. A turn
d. A stretch

Question 4. What is a rotation in terms of transformations?
a. A slide
b. A flip
c. A turn
d. A stretch

Question 5. What is a dilation in terms of transformations?
a. A slide
b. A flip
c. A turn
d. A stretch

Question 6. What does a transformation on the x-axis do to a shape?
a. Moves it left or right
b. Moves it up or down
c. Rotates it
d. Stretches or shrinks it

Question 7. What does a transformation on the y-axis do to a shape?
a. Moves it left or right
b. Moves it up or down
c. Rotates it
d. Stretches or shrinks it

Question 8. What does a reflection on the x-axis do to a shape?
a. Flips it horizontally
b. Flips it vertically
c. Rotates it
d. Stretches or shrinks it

Question 9. What does a reflection on the y-axis do to a shape?
a. Flips it horizontally
b. Flips it vertically
c. Rotates it
d. Stretches or shrinks it

Question 10. What does a rotation about the origin do to a shape?
a. Moves it left or right
b. Moves it up or down
c. Turns it around the origin
d. Stretches or shrinks it

Answer Key

1. b. Changes its position, size, or orientation
2. a. A slide

3. b. A flip
4. c. A turn
5. d. A stretch
6. a. Moves it left or right
7. b. Moves it up or down
8. b. Flips it vertically
9. a. Flips it horizontally
10. c. Turns it around the origin

Week 3 Quiz

Question 1. What is a translation in terms of transformations?
a. A slide
b. A flip
c. A turn
d. A stretch

Question 2. What does a translation do to a shape?
a. Changes its color
b. Changes its position, but not its size or orientation
c. Changes its texture
d. Changes its material

Question 3. What does a translation on the x-axis do to a shape?
a. Moves it left or right
b. Moves it up or down
c. Rotates it
d. Stretches or shrinks it

Question 4. What does a translation on the y-axis do to a shape?
a. Moves it left or right
b. Moves it up or down
c. Rotates it
d. Stretches or shrinks it

Question 5. If a shape is translated 5 units to the right, what happens to the x-coordinates of each point?
a. They increase by 5
b. They decrease by 5
c. They stay the same
d. They multiply by 5

Question 6. If a shape is translated 3 units down, what happens to the y-coordinates of each point?
a. They increase by 3
b. They decrease by 3
c. They stay the same
d. They multiply by 3

Question 7. What is the result of translating a shape twice in the same direction?
a. The shape moves twice as far
b. The shape flips over
c. The shape returns to its original position
d. The shape disappears

Question 8. Can a translation change the size of a shape?
a. Yes
b. No
c. Only if the translation is on the x-axis
d. Only if the translation is on the y-axis

Question 9. Can a translation change the orientation of a shape?
a. Yes
b. No
c. Only if the translation is on the x-axis
d. Only if the translation is on the y-axis

Question 10. What is the result of translating a shape to the right and then translating it the same distance to the left?
a. The shape moves to the right
b. The shape moves to the left
c. The shape returns to its original position
d. The shape disappears

Answer Key

1. a. A slide
2. b. Changes its position, but not its size or orientation
3. a. Moves it left or right
4. b. Moves it up or down
5. a. They increase by 5
6. b. They decrease by 3
7. a. The shape moves twice as far
8. b. No
9. b. No
10. c. The shape returns to its original position

Week 4

Question 1. What is the standard form of the equation of a circle?
a. $x^2 + y^2 = r^2$
b. $x + y = r$
c. $x - y = r$
d. $x^2 - y^2 = r^2$

Question 2. What does the 'r' represent in the equation of a circle?
a. Radius
b. Diameter

c. Circumference
d. Area

Question 3. What is the center of a circle with the equation (x - 3)^2 + (y + 2)^2 = 25?
a. (3, -2)
b. (-3, 2)
c. (3, 2)
d. (-3, -2)

Question 4. What happens to a circle if it is translated 4 units to the right?
a. The x-coordinate of the center increases by 4
b. The x-coordinate of the center decreases by 4
c. The y-coordinate of the center increases by 4
d. The y-coordinate of the center decreases by 4

Question 5. What happens to a circle if it is translated 5 units up?
a. The x-coordinate of the center increases by 5
b. The x-coordinate of the center decreases by 5
c. The y-coordinate of the center increases by 5
d. The y-coordinate of the center decreases by 5

Question 6. What is the result of translating a circle twice in the same direction?
a. The circle moves twice as far
b. The circle flips over
c. The circle returns to its original position
d. The circle disappears

Question 7. Can a translation change the size of a circle?
a. Yes
b. No
c. Only if the translation is on the x-axis
d. Only if the translation is on the y-axis

Question 8. Can a translation change the orientation of a circle?
a. Yes
b. No
c. Only if the translation is on the x-axis
d. Only if the translation is on the y-axis

Question 9. What is the result of translating a circle to the right and then translating it the same distance to the left?
a. The circle moves to the right
b. The circle moves to the left
c. The circle returns to its original position
d. The circle disappears

Question 10. What happens to the equation of a circle if it is translated 2 units to the left and 3 units down?

a. The x-coordinate in the equation decreases by 2 and the y-coordinate in the equation increases by 3
b. The x-coordinate in the equation increases by 2 and the y-coordinate in the equation decreases by 3
c. The x-coordinate in the equation decreases by 2 and the y-coordinate in the equation decreases by 3
d. The x-coordinate in the equation increases by 2 and the y-coordinate in the equation increases by 3

Answer Key

1. a. x^2 + y^2 = r^2
2. a. Radius
3. a. (3, -2)
4. a. The x-coordinate of the center increases by 4
5. c. The y-coordinate of the center increases by 5
6. a. The circle moves twice as far
7. b. No
8. b. No
9. c. The circle returns to its original position
10. d. The x-coordinate in the equation increases by 2 and the y-coordinate in the equation increases by 3

Week 5 Quiz

Question 1. What happens to a point (x, y) when it is reflected over the x-axis?
a. It becomes (-x, y)
b. It becomes (x, -y)
c. It becomes (-x, -y)
d. It stays the same

Question 2. What happens to a point (x, y) when it is reflected over the y-axis?
a. It becomes (-x, y)
b. It becomes (x, -y)
c. It becomes (-x, -y)
d. It stays the same

Question 3. What happens to a point (x, y) when it is rotated 180 degrees around the origin?
a. It becomes (-x, y)
b. It becomes (x, -y)
c. It becomes (-x, -y)
d. It stays the same

Question 4. What happens to a point (x, y) when it is rotated 90 degrees counterclockwise around the origin?
a. It becomes (-y, x)
b. It becomes (y, -x)

c. It becomes (-x, y)
d. It becomes (x, -y)

Question 5. What is a rigid motion in geometry?
a. A transformation that changes the size of a figure
b. A transformation that changes the shape of a figure
c. A transformation that preserves the size and shape of a figure
d. A transformation that changes the orientation of a figure

Question 6. Which of the following is NOT a type of rigid motion?
a. Translation
b. Rotation
c. Reflection
d. Dilation

Question 7. What is the result of applying a rigid motion to a figure?
a. The figure becomes larger
b. The figure becomes smaller
c. The figure changes shape
d. The figure moves or turns but does not change size or shape

Question 8. If a figure is reflected over a line and then translated, is the final result still a rigid motion?
a. Yes
b. No
c. It depends on the line of reflection
d. It depends on the direction of translation

Question 9. What is the effect of a rigid motion on the distance between points?
a. The distance always increases
b. The distance always decreases
c. The distance can either increase or decrease
d. The distance does not change

Question 10. What happens to the angles of a figure when a rigid motion is applied?
a. The angles always increase
b. The angles always decrease
c. The angles can either increase or decrease
d. The angles do not change

Answer Key

1. b. It becomes (x, -y)
2. a. It becomes (-x, y)
3. c. It becomes (-x, -y)
4. a. It becomes (-y, x)
5. c. A transformation that preserves the size and shape of a figure
6. d. Dilation
7. d. The figure moves or turns but does not change size or shape

8. a. Yes
9. d. The distance does not change
10. d. The angles do not change

Week 6 Quiz

Question 1. If two parallel lines are cut by a transversal, what can be said about the corresponding angles?
a. They are complementary.
b. They are supplementary.
c. They are congruent.
d. They are adjacent.

Question 2. What is the sum of the interior angles of a triangle?
a. 90 degrees
b. 180 degrees
c. 270 degrees
d. 360 degrees

Question 3. If two lines are parallel, which of the following is not true?
a. Corresponding angles are equal.
b. Alternate interior angles are equal.
c. Consecutive interior angles are supplementary.
d. All angles are right angles.

Question 4. What is the measure of each angle in an equilateral triangle?
a. 30 degrees
b. 45 degrees
c. 60 degrees
d. 90 degrees

Question 5. What is the sum of the exterior angles of a triangle?
a. 90 degrees
b. 180 degrees
c. 270 degrees
d. 360 degrees

Question 6. If two lines are cut by a transversal and corresponding angles are congruent, what can be said about the two lines?
a. They are perpendicular.
b. They are intersecting.
c. They are parallel.
d. They are skew.

Question 7. What is the measure of each angle in a regular pentagon?
a. 108 degrees
b. 120 degrees
c. 135 degrees
d. 150 degrees

Question 8. If two lines are parallel and a third line intersects them, what is the relationship between the alternate interior angles?
a. They are congruent.
b. They are supplementary.
c. They are complementary.
d. They are unequal.

Question 9. What is the sum of the interior angles of a quadrilateral?
a. 180 degrees
b. 270 degrees
c. 360 degrees
d. 450 degrees

Question 10. If two lines are cut by a transversal and alternate interior angles are congruent, what can be said about the two lines?
a. They are perpendicular.
b. They are intersecting.
c. They are parallel.
d. They are skew.

Answer Key:

1. c. They are congruent.
2. b. 180 degrees
3. d. All angles are right angles.
4. c. 60 degrees
5. d. 360 degrees
6. c. They are parallel.
7. a. 108 degrees
8. a. They are congruent.
9. c. 360 degrees
10. c. They are parallel.

Week 7 Quiz

Question 1. If two parallel lines are cut by a transversal, what is true about the corresponding angles?
a. They are complementary.
b. They are supplementary.
c. They are congruent.
d. They are unequal.

Question 2. If two lines are cut by a transversal and the corresponding angles are congruent, what can be said about the two lines?
a. They are intersecting.
b. They are perpendicular.
c. They are parallel.
d. They are skewed.

Question 3. What is the sum of the measures of the angles on a straight line?
a. 90 degrees
b. 180 degrees
c. 270 degrees
d. 360 degrees

Question 4. If two parallel lines are cut by a transversal, what is true about the alternate interior angles?
a. They are complementary.
b. They are supplementary.
c. They are congruent.
d. They are unequal.

Question 5. If two parallel lines are cut by a transversal, what is true about the alternate exterior angles?
a. They are complementary.
b. They are supplementary.
c. They are congruent.
d. They are unequal.

Question 6. If two parallel lines are cut by a transversal, what is true about the consecutive interior angles?
a. They are complementary.
b. They are supplementary.
c. They are congruent.
d. They are unequal.

Question 7. If two lines are cut by a transversal and the alternate interior angles are congruent, what can be said about the two lines?
a. They are intersecting.
b. They are perpendicular.
c. They are parallel.
d. They are skewed.

Question 8. If two lines are cut by a transversal and the alternate exterior angles are congruent, what can be said about the two lines?
a. They are intersecting.
b. They are perpendicular.
c. They are parallel.
d. They are skewed.

Question 9. If two lines are cut by a transversal and the consecutive interior angles are supplementary, what can be said about the two lines?
a. They are intersecting.
b. They are perpendicular.
c. They are parallel.
d. They are skewed.

Question 10. If two lines are cut by a transversal and the corresponding angles are supplementary, what can be said about the two lines?
a. They are intersecting.
b. They are perpendicular.
c. They are parallel.
d. They are skewed.

Answer Key:

1. c. They are congruent.
2. c. They are parallel.
3. b. 180 degrees
4. c. They are congruent.
5. c. They are congruent.
6. b. They are supplementary.
7. c. They are parallel.
8. c. They are parallel.
9. c. They are parallel.
10. a. They are intersecting.

Week 8 Quiz

Question 1. What is the first step in constructing a copy of a given angle?
a. Draw a ray.
b. Measure the angle.
c. Draw a circle.
d. Draw a line.

Question 2. What tool is typically used for angle copy construction?
a. Ruler
b. Protractor
c. Compass
d. Calculator

Question 3. What is the first step in constructing a copy of a given line segment?
a. Draw a line segment.
b. Measure the segment.
c. Draw a circle.
d. Draw a line.

Question 4. What tool is typically used for segment copy construction?
a. Ruler
b. Protractor
c. Compass
d. Calculator

Question 5. True or False: The order of the vertices matters when copying an angle.
a. True
b. False
c. It depends on the angle.

d. It depends on the construction method.

Question 6. True or False: The order of the endpoints matters when copying a segment.
a. True
b. False
c. It depends on the segment.
d. It depends on the construction method.

Question 7. When copying an angle, what should match the original angle?
a. The length of the rays
b. The distance between the rays
c. The degree measure of the angle
d. The direction of the rays

Question 8. When copying a segment, what should match the original segment?
a. The length of the segment
b. The distance between the endpoints
c. The direction of the segment
d. The midpoint of the segment

Question 9. Why would you need to construct a copy of an angle or segment?
a. To make a larger or smaller version
b. To make an exact replica
c. To make a mirror image
d. To make a rotated version

Question 10. What is the purpose of using a compass in these constructions?
a. To measure angles
b. To draw circles
c. To draw straight lines
d. To measure distances

Answer Key:

1. a. Draw a ray.
2. c. Compass
3. b. Measure the segment.
4. c. Compass
5. b. False
6. b. False
7. c. The degree measure of the angle
8. a. The length of the segment
9. b. To make an exact replica
10. b. To draw circles

Week 9 Quiz

Question 1. What does it mean to bisect a line?
a. To draw a line through the midpoint

b. To draw a line parallel to it
c. To draw a line perpendicular to it
d. To extend the line

Question 2. What does it mean to bisect an angle?
a. To draw a line through the vertex
b. To draw a line parallel to one of the sides
c. To draw a line that divides the angle into two equal angles
d. To extend one of the sides

Question 3. What tool is typically used for bisecting a line segment?
a. Ruler
b. Protractor
c. Compass
d. Calculator

Question 4. What tool is typically used for bisecting an angle?
a. Ruler
b. Protractor
c. Compass
d. Calculator

Question 5. True or False: When you bisect a line, you create two lines of equal length.
a. True
b. False
c. It depends on the line
d. It depends on the method of bisection

Question 6. True or False: When you bisect an angle, you create two angles of equal measure.
a. True
b. False
c. It depends on the angle
d. It depends on the method of bisection

Question 7. When bisecting a line segment, what should match for the two resulting segments?
a. The length
b. The orientation
c. The midpoint
d. The endpoints

Question 8. When bisecting an angle, what should match for the two resulting angles?
a. The degree measure
b. The orientation
c. The vertex
d. The sides

Question 9. Why would you need to bisect a line segment or angle?

a. To create symmetry
b. To create a mirror image
c. To create a larger or smaller version
d. To rotate the figure

Question 10. What is the purpose of using a compass in these bisections?
a. To measure angles
b. To draw circles
c. To draw straight lines
d. To measure distances

Answer Key:

1. a. To draw a line through the midpoint
2. c. To draw a line that divides the angle into two equal angles
3. c. Compass
4. c. Compass
5. a. True
6. a. True
7. a. The length
8. a. The degree measure
9. a. To create symmetry
10. b. To draw circles

Week 10 Quiz

Question 1. What tools are typically used for basic geometric constructions?
a. Ruler and protractor
b. Compass and ruler
c. Calculator and compass
d. Protractor and calculator

Question 2. How many degrees are in a right angle?
a. 45 degrees
b. 90 degrees
c. 120 degrees
d. 180 degrees

Question 3. How many degrees are in a full circle?
a. 90 degrees
b. 180 degrees
c. 270 degrees
d. 360 degrees

Question 4. How many right angles can fit in a full circle?
a. 2
b. 3
c. 4
d. 5

Question 5. How many 120-degree angles can fit in a full circle?
a. 2
b. 3
c. 4
d. 5

Question 6. What is the first step in constructing a 90-degree angle?
a. Draw a straight line
b. Draw a circle
c. Draw a 45-degree angle
d. Draw a 90-degree angle

Question 7. What is the first step in constructing a 120-degree angle?
a. Draw a straight line
b. Draw a circle
c. Draw a 60-degree angle
d. Draw a 120-degree angle

Question 8. How many degrees should you subtract from a full circle to construct a 120-degree angle?
a. 120 degrees
b. 240 degrees
c. 360 degrees
d. 480 degrees

Question 9. How many degrees should you subtract from a full circle to construct a 90-degree angle?
a. 90 degrees
b. 180 degrees
c. 270 degrees
d. 360 degrees

Question 10. What is the relationship between a 120-degree angle and a 90-degree angle?
a. A 120-degree angle is larger than a 90-degree angle
b. A 120-degree angle is smaller than a 90-degree angle
c. A 120-degree angle is equal to a 90-degree angle
d. A 120-degree angle is twice as large as a 90-degree angle

1. b. A compass and ruler
2. b. 90 degrees
3. d. 360 degrees
4. c. 4
5. b. 3
6. a. Draw a straight line
7. a. Draw a straight line
8. b. 240 degrees
9. c. 270 degrees
10. a. A 120-degree angle is larger than a 90-degree angle

Week 11 Quiz

Question 1. Which of the following statements is true about an equilateral triangle?
a) All sides are of different lengths.
b) Two sides are of equal length.
c) All sides are of equal length.
d) None of the sides are of equal length.

Question 2. What is the measure of each interior angle in an equilateral triangle?
a) 45 degrees
b) 90 degrees
c) 60 degrees
d) 30 degrees

Question 3. If one angle of a triangle is 60 degrees and the triangle is isosceles, is it necessarily equilateral?
a) Yes
b) No
c) Maybe
d) Insufficient information

Question 4. Which of the following can be a side length of an equilateral triangle?
a) 0 units
b) -5 units
c) 10 units
d) None of the above

Question 5. What type of triangle is both equilateral and equiangular?
a) Right triangle
b) Isosceles triangle
c) Scalene triangle
d) Equilateral triangle

Question 6. How many lines of symmetry does an equilateral triangle have?
a) 1
b) 2
c) 3
d) 0

Question 7. Which of the following triangles always has congruent angles?
a) Right triangle
b) Scalene triangle
c) Isosceles triangle
d) Equilateral triangle

Question 8. If you know one side of an equilateral triangle, how many other sides can you determine?
a) None
b) One

c) Two
d) All sides including the one given

Question 9. Which of the following is NOT a characteristic of an equilateral triangle?
a) All angles are 60 degrees.
b) All sides are of equal length.
c) One angle is 90 degrees.
d) It has three lines of symmetry.

Question 10. If a triangle is equiangular, what else can be said about it?
a) It is scalene.
b) It is right-angled.
c) It is equilateral.
d) It has one obtuse angle.

Answer Key:

1. c) All sides are of equal length.
2. c) 60 degrees
3. a) Yes
4. c) 10 units
5. d) Equilateral triangle
6. c) 3
7. d) Equilateral triangle
8. d) All sides including the one given
9. c) One angle is 90 degrees.
10. c) It is equilateral.

Week 12 Quiz

Question 1. Which of the following is described as having no thickness or width and extends indefinitely in both directions?
a) Point
b) Plane
c) Line
d) Segment

Question 2. How many points are needed to define a line?
a) One
b) Two
c) Three
d) Four

Question 3. Which of the following is described as a flat surface that extends indefinitely in all directions?
a) Line
b) Point
c) Plane
d) Ray

Question 4. How many points are needed to define a plane?
a) One
b) Two
c) Three
d) Four

Question 5. Which of the following can be entirely contained within a plane?
a) A sphere
b) A line segment
c) A cube
d) A pyramid

Question 6. If two lines lie in the same plane and do not intersect, what are they called?
a) Intersecting lines
b) Parallel lines
c) Perpendicular lines
d) Skew lines

Question 7. What is the term for a part of a line that has two endpoints?
a) Ray
b) Line segment
c) Plane
d) Point

Question 8. Which of the following is described as having no size, only a location?
a) Line
b) Point
c) Plane
d) Ray

Question 9. If two lines intersect at a right angle, what are they called?
a) Parallel lines
b) Skew lines
c) Perpendicular lines
d) Intersecting lines

Question 10. How many planes can be drawn through three non-collinear points?
a) One
b) Two
c) Three
d) Infinite

Answer Key:

1. c) Line
2. b) Two
3. c) Plane
4. c) Three

5. b) A line segment
6. b) Parallel lines
7. b) Line segment
8. b) Point
9. c) Perpendicular lines
10. a) One

Week 13 Quiz

Question 1. If two triangles are similar, what can be said about their corresponding angles?
a) They are congruent
b) They are supplementary
c) They are complementary
d) They are adjacent

Question 2. Which of the following postulates can be used to prove triangles similar?
a) ASA
b) AAS
c) HL
d) AA

Question 3. If two triangles are similar, what can be said about the ratio of their corresponding sides?
a) They are equal
b) They are proportional
c) They are complementary
d) They are supplementary

Question 4. In similar triangles, the ratio of the perimeters is equal to the ratio of what?
a) Heights
b) Areas
c) Corresponding angles
d) Corresponding sides

Question 5. Which of the following is NOT a criterion for triangles to be similar?
a) AAA
b) SSS
c) SAS
d) SSA

Question 6. If two triangles are similar and the scale factor of their sides is 2:3, what is the ratio of their areas?
a) 2:3
b) 4:6
c) 4:9
d) 6:9

Question 7. Which of the following triangles is always similar to any other triangle?
a) Right triangle

b) Equilateral triangle
c) Isosceles triangle
d) None of the above

Question 8. If the shortest sides of two similar triangles are 4 cm and 6 cm respectively, what could be the length of the longest side of the second triangle if the longest side of the first triangle is 10 cm?
a) 12 cm
b) 15 cm
c) 8 cm
d) 18 cm

Question 9. Which of the following statements is true for two similar triangles?
a) Their areas are equal
b) Their perimeters are equal
c) Their corresponding angles are equal
d) Their altitudes are proportional

Question 10. If two triangles have their corresponding sides in the ratio 3:4, what is the ratio of their areas?
a) 9:12
b) 9:16
c) 3:4
d) 12:16

Answer Key:

1. a) They are congruent
2. d) AA
3. b) They are proportional
4. d) Corresponding sides
5. d) SSA
6. c) 4:9
7. d) None of the above
8. b) 15 cm
9. c) Their corresponding angles are equal
10. b) 9:16

Week 14 Quiz

Question 1. What is a similarity transformation?
a) A transformation that preserves the shape
b) A transformation that changes the angles
c) A transformation that changes the shape
d) None of the above

Question 2. Which of the following transformations always produces a figure similar to the original?
a) Translation

b) Reflection
c) Dilation
d) None of the above

Question 3. If a figure undergoes a dilation with a scale factor greater than 1, the image will be:
a) Larger than the original figure
b) Smaller than the original figure
c) The same size as the original figure
d) Reflected over a line

Question 4. What property do all similarity transformations preserve?
a) Length
b) Angle measures
c) Orientation
d) Area

Question 5. Which of the following is NOT a similarity transformation?
a) Rotation
b) Dilation
c) Translation
d) Shear

Question 6. If two figures are similar, they have the same:
a) Size
b) Shape
c) Orientation
d) Position

Question 7. A dilation with a scale factor of 1 results in:
a) An image identical to the original
b) A larger image
c) A smaller image
d) A reflected image

Question 8. Which transformation does not change the size or shape of a figure?
a) Dilation
b) Rotation
c) Translation
d) Reflection

Question 9. If a figure is dilated with a scale factor of 0.5, the resulting figure will be:
a) Twice as large
b) Half as large
c) The same size
d) Four times larger

Question 10. What is the center of dilation?
a) The point where the figure is rotated

b) The point where the figure is reflected
c) The fixed point in space about which a figure is dilated
d) The point where the figure is translated

Answer Key:

1. a) A transformation that changes the size of a figure
2. c) Dilation
3. a) Larger than the original figure
4. b) Angle measures
5. d) Shear
6. b) Shape
7. a) An image identical to the original
8. c) Translation
9. b) Half as large
10. c) The fixed point in space about which a figure is dilated

Week 15 Quiz

Question 1. In an isosceles triangle, what can be said about the angles opposite the congruent sides?
a) They are acute.
b) They are obtuse.
c) They are congruent.
d) They are complementary.

Question 2. If a triangle is isosceles with congruent sides of length 5 units, what can be said about its base angles?
a) They are both 45 degrees.
b) They are both 90 degrees.
c) They are congruent.
d) They are supplementary.
Question 3. Which of the following is NOT a property of an isosceles triangle?
a) Two congruent sides.
b) Three congruent sides.
c) Two congruent angles.
d) None of the above

Question 4. If one angle in an isosceles triangle measures 40 degrees, what can be said about the other two angles?
a) They both measure 70 degrees.
b) They both measure 40 degrees.
c) They are supplementary.
d) They are complementary.

Question 5. The perpendicular bisector of a segment divides the segment into:
a) Two congruent segments.
b) Two segments of different lengths.
c) Two segments that are perpendicular to each other.

d) Two segments that are parallel to each other.

Question 6. If a point lies on the perpendicular bisector of a segment, it is:
a) Closer to one endpoint than the other.
b) Equidistant from the endpoints of the segment.
c) At the midpoint of the segment.
d) At the endpoint of the segment.

Question 7. In an isosceles triangle, if the vertex angle is obtuse, then the base angles are:
a) Acute.
b) Obtuse.
c) Right.
d) Congruent.

Question 8. The converse of the Perpendicular Bisector Theorem states:
a) If a point is equidistant from the endpoints of a segment, then it lies on the perpendicular bisector of the segment.
b) If a point lies on the perpendicular bisector of a segment, then it is equidistant from the endpoints.
c) If a point is not on the perpendicular bisector, it is not equidistant from the endpoints.
d) If a point is on the bisector, it is closer to one endpoint than the other.

Question 9. The legs of an isosceles triangle are:
a) The two congruent sides.
b) The two non-congruent sides.
c) The longest side.
d) The shortest side.

Question 10. If a triangle has two congruent angles, it must be:
a) Scalene.
b) Equilateral.
c) Isosceles.
d) Right.

Answer Key:

1. c) They are congruent.
2. c) They are congruent.
3. b) Three congruent sides.
4. a) They both measure 70 degrees.
5. a) Two congruent segments.
6. b) Equidistant from the endpoints of the segment.
7. a) Acute.
8. a) If a point is equidistant from the endpoints of a segment, then it lies on the perpendicular bisector of the segment.
9. a) The two congruent sides.
10. c) Isosceles.

Week 16

Question 1. The first step in solving a triangle congruence problem is to:
a) Assume the triangles are congruent.
b) Identify the given information.
c) Draw the triangles.
d) Use the Pythagorean theorem.

Question 2. When given two triangles, if you can identify that two angles and the included side of one triangle are congruent to two angles and the included side of another triangle, you can use:
a) SSS postulate.
b) SAS postulate.
c) AA postulate.
d) SSA postulate.

Question 3. To prove triangles similar using the AA postulate, you need:
a) Two pairs of congruent sides.
b) Three pairs of congruent sides.
c) Two pairs of congruent angles.
d) Three pairs of congruent angles.

Question 4. When given a word problem involving triangles, it's important to:
a) Always use the SSS postulate.
b) Draw a diagram to represent the problem.
c) Assume all triangles are right triangles.
d) Only focus on the angles.

Question 5. If two triangles have three pairs of proportional sides, they can be proven similar by the:
a) AA postulate.
b) SAS postulate.
c) SSS postulate.
d) SSA postulate.

Question 6. When trying to prove triangles congruent, it's essential to:
a) Show all sides are proportional.
b) Show all angles are congruent.
c) Use the correct postulate or theorem based on given information.
d) Always use the Pythagorean theorem.

Question 7. If you're given that two triangles have two pairs of congruent angles, but no information about their sides, you should:
a) Use the SSS postulate.
b) Use the SAS postulate.
c) Use the AA postulate.
d) Assume they are not similar.

Question 8. When given a word problem, if it's mentioned that a triangle is "scaled up" or "reduced", you should immediately think of:
a) Congruence.
b) Similarity.
c) Neither congruence nor similarity.
d) Both congruence and similarity.

Question 9. If two triangles have two pairs of congruent sides and a pair of congruent angles, but the angles are not between the two sides, you might be dealing with the:
a) AA postulate.
b) SAS postulate.
c) SSS postulate.
d) SSA condition.

Question 10. When trying to determine if triangles are similar or congruent based on a word problem, it's crucial to:
a) Only focus on the numbers given.
b) Assume the triangles are congruent unless stated otherwise.
c) Identify and list the known information before deciding on a postulate or theorem.
d) Always use the AA postulate.

Answer Key:

1. b) Identify the given information.
2. b) SAS postulate.
3. c) Two pairs of congruent angles.
4. b) Draw a diagram to represent the problem.
5. c) SSS postulate.
6. c) Use the correct postulate or theorem based on given information.
7. c) Use the AA postulate.
8. b) Similarity.
9. d) SSA condition.
10. c) Identify and list the known information before deciding on a postulate or theorem.

Week 17

Question 1. In a 45-45-90 triangle, the two legs are:
a) Congruent.
b) Proportional.
c) Not related in length.
d) Always half the length of the hypotenuse.

Question 2. In a 30-60-90 triangle, the side opposite the 30° angle is:
a) The shortest side.
b) The longest side.
c) Equal to the hypotenuse.
d) Equal to the side opposite the 60° angle.

Question 3. The hypotenuse in a 45-45-90 triangle is:

a) Equal to the length of one leg.
b) Half the length of one leg.
c) Twice the length of one leg.
d) Not related to the length of the legs.

Question 4. In a 30-60-90 triangle, the side opposite the 60° angle is:
a) Half the length of the hypotenuse.
b) Equal to the length of the hypotenuse.
c) Twice the length of the side opposite the 30° angle.
d) Not related to the other sides.

Question 5. The reason a 45-45-90 triangle is called an "isosceles right triangle" is because:
a) It has two congruent sides.
b) It has three congruent sides.
c) It has one right angle.
d) It has two right angles.

Question 6. The side opposite the 90° angle in any right triangle is called the:
a) Adjacent side.
b) Opposite side.
c) Hypotenuse.
d) Median.

Question 7. In a 30-60-90 triangle, the hypotenuse is:
a) Twice the length of the side opposite the 30° angle.
b) Half the length of the side opposite the 30° angle.
c) Equal to the side opposite the 60° angle.
d) Not related to the other sides.

Question 8. Special right triangles are useful because:
a) They always have congruent sides.
b) Their side ratios are consistent and predictable.
c) They can only be used in geometry.
d) They have more than one right angle.

Question 9. In a 45-45-90 triangle, the angles are:
a) All congruent.
b) All acute.
c) Two are acute and one is right.
d) Two are right and one is acute.

Question 10. The side ratios of the 30-60-90 triangle are derived from:
a) The Pythagorean theorem.
b) The properties of equilateral triangles.
c) The properties of isosceles triangles.
d) The properties of scalene triangles.

Answer Key:

1. a) Congruent.
2. a) The shortest side.
3. c) Twice the length of one leg.
4. c) Twice the length of the side opposite the 30° angle.
5. a) It has two congruent sides.
6. c) Hypotenuse.
7. a) Twice the length of the side opposite the 30° angle.
8. b) Their side ratios are consistent and predictable.
9. c) Two are acute and one is right.
10. b) The properties of equilateral triangles.

Week 18

Question 1. In a right triangle, the sine of an angle is the ratio of:
a) Opposite side to adjacent side.
b) Adjacent side to hypotenuse.
c) Opposite side to hypotenuse.
d) Hypotenuse to opposite side.

Question 2. In a right triangle, the cosine of an angle is the ratio of:
a) Opposite side to adjacent side.
b) Adjacent side to hypotenuse.
c) Opposite side to hypotenuse.
d) Hypotenuse to adjacent side.

Question 3. The tangent of an angle in a right triangle is:
a) The product of sine and cosine of that angle.
b) The ratio of sine to cosine of that angle.
c) The difference between sine and cosine of that angle.
d) The sum of sine and cosine of that angle.

Question 4. If the sine of an angle is 0, the angle is:
a) 0 degrees.
b) 30 degrees.
c) 45 degrees.
d) 90 degrees.

Question 5. If the cosine of an angle is 1, the angle is:
a) 0 degrees.
b) 30 degrees.
c) 45 degrees.
d) 90 degrees.

Question 6. In the context of a right triangle, the sine of an angle is equivalent to:
a) The cosine of the complementary angle.
b) The tangent of the complementary angle.
c) The sine of the complementary angle.

d) The cosine of the supplementary angle.

Question 7. The value of tangent for a 45-degree angle is:
a) 0
b) 0.5
c) 1
d) Undefined

Question 8. If the sine of an angle is greater than 1 or less than -1:
a) The angle is acute.
b) The angle is obtuse.
c) The angle is right.
d) It's not possible.

Question 9. The reciprocal of sine is:
a) Cosine.
b) Tangent.
c) Cosecant.
d) Secant.

Question 10. The cosine of an angle in a right triangle represents:
a) The length of the side opposite the angle.
b) The length of the side adjacent to the angle.
c) The length of the hypotenuse.
d) The area of the triangle.

Answer Key:

1. c) Opposite side to hypotenuse.
2. b) Adjacent side to hypotenuse.
3. b) The ratio of sine to cosine of that angle.
4. a) 0 degrees.
5. a) 0 degrees.
6. a) The cosine of the complementary angle.
7. c) 1
8. d) It's not possible.
9. c) Cosecant.
10. b) The length of the side adjacent to the angle.

Week 19

Question 1. The Pythagoras theorem relates:
a) The three angles of a triangle.
b) The three sides of a right triangle.
c) The area of a triangle to its sides.
d) The perimeter of a triangle to its angles.

Question 2. In a right triangle, the side opposite the right angle is called the:
a) Adjacent side.

b) Opposite side.
c) Hypotenuse.
d) Median.

Question 3. The sine of an angle in a right triangle is the ratio of:
a) Opposite side to the hypotenuse.
b) Adjacent side to the hypotenuse.
c) Opposite side to the adjacent side.
d) Hypotenuse to the adjacent side.

Question 4. If the two shorter sides of a right triangle are equal in length, the triangle is:
a) Isosceles.
b) Scalene.
c) Equilateral.
d) Acute.

Question 5. The Pythagoras theorem states that in a right triangle:
a) The sum of the squares of the two shorter sides is equal to the square of the hypotenuse.
b) The square of the hypotenuse is equal to the sum of the lengths of the two shorter sides.
c) The square of one of the shorter sides is equal to the sum of the squares of the hypotenuse and the other side.
d) The sum of the lengths of the two shorter sides is equal to the length of the hypotenuse.

Question 6. The tangent of an angle in a right triangle is the ratio of:
a) Opposite side to the hypotenuse.
b) Adjacent side to the hypotenuse.
c) Opposite side to the adjacent side.
d) Hypotenuse to the opposite side.

Question 7. In a right triangle, if one of the acute angles measures 30 degrees, the other acute angle will measure:
a) 30 degrees.
b) 45 degrees.
c) 60 degrees.
d) 90 degrees.

Question 8. The cosine of an angle in a right triangle represents:
a) The length of the side opposite the angle.
b) The length of the side adjacent to the angle.
c) The length of the hypotenuse.
d) The area of the triangle.

Question 9. If the sine of an angle in a right triangle is 0.5, the cosine of the complementary angle is:
a) 0
b) 0.5
c) 1
d) 2

Question 10. The Pythagoras theorem can only be applied to:
a) Right triangles.
b) Acute triangles.
c) Obtuse triangles.
d) Equilateral triangles.

Answer Key:

1. b) The three sides of a right triangle.
2. c) Hypotenuse.
3. a) Opposite side to the hypotenuse.
4. a) Isosceles.
5. a) The sum of the squares of the two shorter sides is equal to the square of the hypotenuse.
6. c) Opposite side to the adjacent side.
7. c) 60 degrees.
8. b) The length of the side adjacent to the angle.
9. b) 0.5
10. a) Right triangles.

Week 20

Question 1. The area of a triangle can be found using which formula?
a) Length x Width
b) Base x Height
c) 1/2 x Base x Height
d) Base + Height

Question 2. If you know the lengths of all three sides of a triangle, you can find its area using:
a) Pythagoras theorem.
b) The base and height.
c) Heron's formula.
d) The sine rule.

Question 3. The height of a triangle is:
a) Always one of its sides.
b) The longest side.
c) A perpendicular line drawn from the base to the opposite vertex.
d) Half the length of the base.

Question 4. If a triangle is equilateral, its height:
a) Is the same as its base.
b) Is half its base.
c) Is longer than its base.
d) Cannot be determined.

Question 5. The base of a triangle:
a) Is always the shortest side.

b) Is always the longest side.
c) Can be any one of its sides.
d) Is always horizontal.

Question 6. When given the area and base of a triangle, the height can be found by:
a) Multiplying the area by 2 and dividing by the base.
b) Dividing the area by the base.
c) Multiplying the area by the base.
d) Dividing the area by 2 and multiplying by the base.

Question 7. The area of a triangle will be the largest when:
a) The base is the shortest side.
b) The height is the shortest side.
c) The height is the longest side.
d) The base and height are equal in length.

Question 8. If two triangles have the same base and height, their areas are:
a) Different.
b) The same.
c) Half of each other.
d) Double of each other.

Question 9. The area of a triangle can be zero if:
a) The triangle is equilateral.
b) The triangle is isosceles.
c) The triangle's vertices are collinear.
d) The triangle is scalene.

Question 10. If the base of a triangle is doubled while the height remains the same, the area:
a) Remains the same.
b) Is halved.
c) Is doubled.
d) Is quadrupled.

Answer Key:

1. c) 1/2 x Base x Height
2. c) Heron's formula.
3. c) A perpendicular line drawn from the base to the opposite vertex.
4. c) Is longer than its base.
5. c) Can be any one of its sides.
6. a) Multiplying the area by 2 and dividing by the base.
7. c) The height is the longest side.
8. b) The same.
9. c) The triangle's vertices are collinear.
10. c) Is doubled.

Week 21

Question 1. The Law of Sines relates which of the following in a triangle?
a) Two sides and an included angle
b) All three sides
c) Two angles and a side between them
d) Two angles and a side opposite one of them

Question 2. The Law of Cosines is especially useful for which type of triangle?
a) Right triangle
b) Equilateral triangle
c) Isosceles triangle
d) Oblique triangle

Question 3. Which of the following is a situation where the Law of Sines cannot be used directly?
a) When given two angles and a side
b) When given two sides and an included angle
c) When given three sides
d) When given two sides and a non-included angle

Question 4. The Law of Cosines can be derived from which theorem?
a) Pythagorean theorem
b) Triangle inequality theorem
c) Angle sum theorem
d) Alternate interior angles theorem

Question 5. The Law of Sines is applicable to which types of triangles?
a) Only right triangles
b) Only acute triangles
c) Only obtuse triangles
d) All triangles

Question 6. The Law of Cosines can be used to find:
a) An angle when given three sides
b) A side when given two angles
c) The area of a triangle
d) The height of a triangle

Question 7. The ambiguous case refers to a situation in the Law of Sines where:
a) There are two possible triangles
b) There is no possible triangle
c) There is only one possible triangle
d) Both a and b

Question 8. The Law of Sines can be derived from:
a) The definition of sine
b) The Pythagorean theorem
c) The properties of similar triangles

d) The properties of congruent triangles

Question 9. The Law of Cosines generalizes which theorem for all triangles?
a) Pythagorean theorem
b) Triangle inequality theorem
c) Angle sum theorem
d) Alternate interior angles theorem

Question 10. Which of the following is NOT a formula associated with the Law of Cosines?
a) $c^2 = a^2 + b^2 - 2ab * \cos(C)$
b) $a^2 = b^2 + c^2 + 2bc * \cos(A)$
c) $b^2 = a^2 + c^2 - 2ac * \cos(B)$
d) $c^2 = a^2 + b^2 + 2ab * \sin(C)$

Answer Key:

1. d) Two angles and a side opposite one of them
2. d) Oblique triangle
3. b) When given two sides and an included angle
4. a) Pythagorean theorem
5. d) All triangles
6. a) An angle when given three sides
7. d) Both a and b
8. c) The properties of similar triangles
9. a) Pythagorean theorem
10. d) $c^2 = a^2 + b^2 + 2ab * \sin(C)$

Week 22

Question 1. When given two angles and a side of a triangle, which law would you typically use?
a) Law of Cosines
b) Pythagorean Theorem
c) Law of Sines
d) Quadratic Formula

Question 2. Which of the following is a common use for the Law of Cosines?
a) Finding an angle given two sides and a non-included angle.
b) Finding a side given two angles and a non-included side.
c) Finding an angle given three sides.
d) Finding a side given three angles.

Question 3. If you have a triangle with sides of known lengths, but no known angles, which law can help you find an angle?
a) Law of Sines
b) Law of Cosines
c) Pythagorean Theorem
d) None of the above

Question 4. Which scenario might lead to the ambiguous case when using the Law of Sines?
a) Two sides and an included angle are given.
b) Two angles and an included side are given.
c) Two sides and a non-included angle are given.
d) Three sides are given.

Question 5. The Law of Sines is especially useful for which type of triangle?
a) Right triangle
b) Equilateral triangle
c) Isosceles triangle
d) Oblique triangle

Question 6. Which of the following is NOT a requirement for using the Law of Sines?
a) Knowing at least one angle-side pair.
b) Having a right triangle.
c) Knowing two angles and a side.
d) Knowing two sides and an angle.

Question 7. The Law of Cosines is an extension and generalization of which theorem?
a) Angle Sum Theorem
b) Triangle Inequality Theorem
c) Pythagorean Theorem
d) Law of Sines

Question 8. When is the Law of Sines most applicable?
a) When you have two sides and an included angle.
b) When you have two angles and a side.
c) When you have three sides.
d) When you have three angles.

Question 9. Which of the following is true about the Law of Cosines?
a) It can only be used for right triangles.
b) It can be used to find an angle given three sides.
c) It is derived from the Law of Sines.
d) It is only applicable for acute triangles.

Question 10. In the Law of Sines, the ratio of the length of a side to the sine of its opposite angle is:
a) Different for each side.
b) The same for all sides.
c) Equal to the area of the triangle.
d) Equal to the perimeter of the triangle.

Answer Key:

1. c) Law of Sines
2. c) Finding an angle given three sides.
3. b) Law of Cosines

4. c) Two sides and a non-included angle are given.
5. d) Oblique triangle
6. b) Having a right triangle.
7. c) Pythagorean Theorem
8. b) When you have two angles and a side.
9. b) It can be used to find an angle given three sides.
10. b) The same for all sides.

Week 23

Question 1. What is the relationship between the diameter and the radius of a circle?
a) The diameter is half the radius.
b) The diameter is twice the radius.
c) The diameter is the same as the radius.
d) The diameter is four times the radius.

Question 2. Which of the following best describes Pi?
a) A square number
b) An even number
c) A ratio of the circumference of a circle to its diameter
d) A type of triangle

Question 3. If you know the radius of a circle, how can you find its circumference?
a) Multiply the radius by Pi
b) Divide the radius by Pi
c) Multiply the diameter by Pi
d) Divide the diameter by Pi

Question 4. Which part of the circle passes through its center and touches the circle at two points?
a) Radius
b) Circumference
c) Diameter
d) Arc

Question 5. What is the shape of the set of all points that are equidistant from a given point?
a) Square
b) Triangle
c) Circle
d) Rectangle

Question 6. Which of the following is closest to the value of Pi?
a) 2.14
b) 3.14
c) 4.14
d) 5.14

Question 7. If you fold a circle in half, the line that divides the circle into two equal parts is called the:

a) Radius
b) Diameter
c) Circumference
d) Segment

Question 8. The distance around a circle is known as the:
a) Area
b) Radius
c) Diameter
d) Circumference

Question 9. Which of the following is true about the radius of a circle?
a) It touches the circle at two points.
b) It is always half the diameter.
c) It is the distance around the circle.
d) It is the longest chord of the circle.

Question 10. If you have the circumference of a circle, how can you find its diameter?
a) Multiply the circumference by Pi
b) Divide the circumference by Pi
c) Multiply the circumference by 2
d) Divide the circumference by 2

Answer Key:

1. b) The diameter is twice the radius.
2. c) A ratio of the circumference of a circle to its diameter
3. c) Multiply the diameter by Pi
4. c) Diameter
5. c) Circle
6. b) 3.14
7. b) Diameter
8. d) Circumference
9. b) It is always half the diameter.
10. b) Divide the circumference by Pi

Week 24

Question 1. Which of the following is needed to calculate the area of a circle?
a) Diameter
b) Circumference
c) Radius
d) Arc length

Question 2. The area of a circle can be found using which of the following formulas?
a) Radius x Diameter
b) Pi x Diameter
c) Pi x Radius x Radius
d) 2 x Pi x Radius

Question 3. If you double the radius of a circle, what happens to its area?
a) It doubles.
b) It becomes four times larger.
c) It becomes half.
d) It remains the same.

Question 4. Which of the following is closest to the value of Pi?
a) 2
b) 3
c) 3.5
d) 4

Question 5. What shape is formed by all the points that are equidistant from a given point?
a) Square
b) Triangle
c) Circle
d) Rectangle

Question 6. The area of a circle is measured in:
a) Square units
b) Linear units
c) Cubic units
d) Degrees

Question 7. If the diameter of a circle is 10 units, what is the radius?
a) 10 units
b) 20 units
c) 5 units
d) 15 units

Question 8. Which of the following is true about the area of a circle?
a) It is the space inside the circle.
b) It is the distance around the circle.
c) It is half the circumference.
d) It is twice the radius.

Question 9. If two circles have the same radius, they will have:
a) Different areas
b) The same area
c) Different circumferences
d) Different diameters

Question 10. Which part of the circle is half the diameter?
a) Circumference
b) Arc
c) Radius
d) Segment

Answer Key:

1. c) Radius
2. c) Pi x Radius x Radius
3. b) It becomes four times larger.
4. b) 3
5. c) Circle
6. a) Square units
7. c) 5 units
8. a) It is the space inside the circle.
9. b) The same area
10. c) Radius

Week 25

Question 1. All circles are similar because they:
a) Have the same radius
b) Have the same diameter
c) Have the same circumference
d) Have the same shape

Question 2. If two circles have the same radius, they are:
a) Congruent
b) Not similar
c) Not congruent
d) Different in shape

Question 3. Which of the following is NOT a property of similar figures?
a) Corresponding angles are congruent
b) Corresponding sides are proportional
c) They have the same area
d) They have the same shape

Question 4. Two circles with different radii are:
a) Not similar
b) Congruent
c) Similar
d) Not congruent

Question 5. The ratio of the areas of two similar circles is the square of the ratio of their:
a) Circumferences
b) Diameters
c) Radii
d) Arc lengths

Question 6. If two circles are congruent, then they are:
a) Not similar
b) Similar
c) Different in size

d) Different in shape

Question 7. Which of the following is true about similar circles?
a) They have the same circumference
b) They have the same diameter
c) They have the same shape
d) They have different radii

Question 8. The ratio of the circumferences of two similar circles is the same as the ratio of their:
a) Areas
b) Radii
c) Diameters
d) Arc lengths

Question 9. If two circles have the same diameter, they are:
a) Not similar
b) Congruent
c) Different in shape
d) Not congruent

Question 10. Which of the following is NOT a reason two circles can be similar?
a) They have the same shape
b) They have the same size
c) Their radii are proportional
d) Their circumferences are proportional

Answer Key:

1. d) Have the same shape
2. a) Congruent
3. c) They have the same area
4. c) Similar
5. c) Radii
6. b) Similar
7. c) They have the same shape
8. b) Radii
9. b) Congruent
10. b) They have the same size

Week 26

Question 1. An inscribed angle is formed by two:
a) Radii.
b) Diameters.
c) Chords.
d) Tangents.

Question 2. The measure of an inscribed angle is _____ the measure of its intercepted arc.
a) Equal to.
b) Half of.
c) Double.
d) One-third of.

Question 3. If two inscribed angles intercept the same arc, then the angles are:
a) Supplementary.
b) Complementary.
c) Congruent.
d) Adjacent.

Question 4. An angle inscribed in a semicircle is always:
a) Acute.
b) Obtuse.
c) Right.
d) Straight.

Question 5. If a quadrilateral is inscribed in a circle, then its opposite angles:
a) Are supplementary.
b) Are complementary.
c) Are congruent.
d) Have no relation.

Question 6. Can an inscribed angle exceed 180 degrees?
a) Yes
b) No
c) Depends on the circle
d) None of the above

Question 7. The arc that an inscribed angle intercepts is called:
a) Central arc.
b) Minor arc.
c) Intercepted arc.
d) Tangent arc.

Question 8. If the inscribed angle is 45 degrees, its intercepted arc will be:
a) 45 degrees.
b) 90 degrees.
c) 22.5 degrees.
d) 180 degrees.

Question 9. An inscribed angle that intercepts a major arc is:
a) Obtuse.
b) Acute.
c) Right.
d) Reflex.

Question 10. The vertex of an inscribed angle lies:
a) At the center of the circle.
b) Outside the circle.
c) On the circle.
d) Inside the circle but not at the center.

Answer Key:

1. c) Chords.
2. b) Half of.
3. c) Congruent.
4. c) Right.
5. a) Are supplementary.
6. b) No
7. c) Intercepted arc.
8. b) 90 degrees.
9. a) Obtuse.
10. c) On the circle.

Week 27

Question 1. A tangent to a circle is a line that:
a) Passes through the center.
b) Intersects the circle at two points.
c) Intersects the circle at one point.
d) Lies completely inside the circle.

Question 2. If two circles are externally tangent to each other, they:
a) Overlap.
b) Touch at one point.
c) Do not touch at all.
d) Touch at two points.

Question 3. The point where a tangent touches the circle is called the:
a) Center.
b) Radius.
c) Chord.
d) Point of tangency.

Question 4. The line drawn from the center of the circle to the point of tangency is _____ to the tangent.
a) Parallel.
b) Perpendicular.
c) At an acute angle.
d) At an obtuse angle.

Question 5. If two circles are internally tangent, the tangent line:
a) Lies between the two circles.
b) Touches both circles at the same point.

c) Intersects the circles at two different points.
d) Does not touch either circle.

Question 6. When constructing a tangent to two circles, a common tool used is a:
a) Protractor.
b) Compass.
c) Ruler.
d) Calculator.

Question 7. If two circles are of different sizes and externally tangent, there will be:
a) One common tangent.
b) Two common tangents.
c) Three common tangents.
d) Four common tangents.

Question 8. The distance from the point of tangency to the center of the circle is equal to the:
a) Diameter.
b) Circumference.
c) Radius.
d) Arc length.

Question 9. If two circles are of the same size and externally tangent, the number of common tangents is:
a) One.
b) Two.
c) Three.
d) Four.

Question 10. When constructing a tangent to two circles, it's essential to ensure that the tangent:
a) Passes through the centers of both circles.
b) Is equidistant from the centers of both circles.
c) Touches both circles at the same point.
d) Lies outside both circles.

Answer Key:

1. c) Intersects the circle at one point.
2. b) Touch at one point.
3. d) Point of tangency.
4. b) Perpendicular.
5. b) Touches both circles at the same point.
6. b) Compass.
7. b) Two common tangents.
8. c) Radius.
9. b) Two.
10. d) Lies outside both circles.

Week 28

Question 1. The standard equation of a circle is based on:
a) Diameter and circumference.
b) Center and diameter.
c) Center and radius.
d) Radius and circumference.

Question 2. If the center of a circle is at the origin, the equation of the circle is:
a) $x^2 + y^2 = r^2$.
b) $(x - h)^2 + (y - k)^2 = r^2$.
c) $x^2 - y^2 = r^2$.
d) $x + y = r$.

Question 3. In the equation $(x - h)^2 + (y - k)^2 = r^2$, (h, k) represents:
a) The radius.
b) The diameter.
c) The center.
d) The circumference.

Question 4. If the radius of a circle is 5 and its center is at the origin, the equation is:
a) $x^2 + y^2 = 10$.
b) $x^2 + y^2 = 25$.
c) $(x - 5)^2 + y^2 = 25$.
d) $x^2 + (y - 5)^2 = 25$.

Question 5. The value of r in the equation of a circle represents:
a) Diameter.
b) Circumference.
c) Radius squared.
d) Center.

Question 6. If the center of a circle is not at the origin, the equation will have:
a) Only x and y terms.
b) Only x^2 and y^2 terms.
c) Terms with $(x - h)$ and $(y - k)$.
d) Terms with $(x + h)$ and $(y + k)$.

Question 7. The equation of a circle with center (3, 4) and radius 6 is:
a) $(x - 3)^2 + (y - 4)^2 = 36$.
b) $(x + 3)^2 + (y + 4)^2 = 36$.
c) $(x - 3)^2 + (y - 4)^2 = 6$.
d) $x^2 + y^2 = 36$.

Question 8. If you know the center and a point on the circle, you can:
a) Find the diameter.
b) Find the radius.
c) Write the equation of the circle.
d) Both b and c.

Question 9. The center of the circle given by the equation $x^2 + y^2 = 9$ is:
a) (0, 0).
b) (9, 9).
c) (3, 3).
d) (1, 1).

Question 10. The radius of the circle given by the equation $(x - 2)^2 + (y + 3)^2 = 16$ is:
a) 2.
b) 3.
c) 4.
d) 16.

Answer Key:

1. c) Center and radius.
2. a) $x^2 + y^2 = r^2$.
3. c) The center.
4. b) $x^2 + y^2 = 25$.
5. c) Radius squared.
6. c) Terms with $(x - h)$ and $(y - k)$.
7. a) $(x - 3)^2 + (y - 4)^2 = 36$.
8. d) Both b and c.
9. a) (0, 0).
10. c) 4.

Week 29

Question 1. A parabola is defined as the set of all points that are:
a) Equidistant from a given point and a given line.
b) Closest to the x-axis.
c) Equidistant from the x-axis and y-axis.
d) Farthest from a given point.

Question 2. The given point in the definition of a parabola is called the:
a) Vertex.
b) Axis.
c) Focus.
d) Directrix.

Question 3. The given line in the definition of a parabola is called the:
a) Axis.
b) Directrix.
c) Focus.
d) Vertex.

Question 4. The line of symmetry of a parabola is also known as:
a) Directrix.
b) Focus.

c) Axis of symmetry.
d) Vertex line.

Question 5. The highest or lowest point on a parabola is called the:
a) Focus.
b) Directrix.
c) Axis.
d) Vertex.

Question 6. A parabola that opens upwards or downwards has a _____ axis of symmetry.
a) Horizontal.
b) Vertical.
c) Diagonal.
d) Curved.

Question 7. The standard form of a parabola that opens up or down is:
a) $y = ax^2 + bx + c$.
b) $x = ay^2 + by + c$.
c) $y = ax + b$.
d) $x = ay + b$.

Question 8. The value of 'a' in the standard form of a parabola determines:
a) The direction the parabola opens.
b) The position of the directrix.
c) The position of the focus.
d) The y-intercept of the parabola.

Question 9. If a parabola has its vertex at the origin and opens to the right, its focus is:
a) On the y-axis.
b) On the x-axis.
c) Above the x-axis.
d) Below the x-axis.

Question 10. The point where the parabola intersects the y-axis is called the:
a) Vertex.
b) Focus.
c) Directrix.
d) Y-intercept.

Answer Key:

1. a) Equidistant from a given point and a given line.
2. c) Focus.
3. b) Directrix.
4. c) Axis of symmetry.
5. d) Vertex.
6. b) Vertical.
7. a) $y = ax^2 + bx + c$.
8. a) The direction the parabola opens.

9. b) On the x-axis.
10. d) Y-intercept.

Week 30

Question 1. The vertex of a parabola is:
a) The highest or lowest point of the curve.
b) The point where the parabola intersects the x-axis.
c) The midpoint between the focus and the directrix.
d) The point where the parabola intersects the y-axis.

Question 2. The directrix of a parabola is:
a) A fixed point inside the curve.
b) A fixed line that the curve approaches but never touches.
c) The line of symmetry of the parabola.
d) The line connecting the focus to the vertex.

Question 3. The focus of a parabola is:
a) A fixed line outside the curve.
b) The line of symmetry of the parabola.
c) A fixed point inside the curve.
d) The point where the parabola intersects the y-axis.

Question 4. For a parabola that opens upwards, the focus is:
a) Above the vertex.
b) Below the vertex.
c) To the left of the vertex.
d) To the right of the vertex.

Question 5. For a parabola that opens to the right, the directrix is:
a) To the left of the vertex.
b) To the right of the vertex.
c) Above the vertex.
d) Below the vertex.

Question 6. The distance between the vertex and the focus is always:
a) Greater than the distance between the vertex and the directrix.
b) Less than the distance between the vertex and the directrix.
c) Equal to the distance between the vertex and the directrix.
d) Twice the distance between the vertex and the directrix.

Question 7. If the vertex of a parabola is at the origin and it opens downwards, the focus is:
a) On the x-axis.
b) On the y-axis.
c) Above the x-axis.
d) Below the x-axis.

Question 8. The axis of symmetry of a parabola passes through:
a) The directrix.

b) The focus and the vertex.
c) The y-intercept.
d) The x-intercept.

Question 9. For a parabola that opens to the left, the focus is:
a) To the left of the vertex.
b) To the right of the vertex.
c) Above the vertex.
d) Below the vertex.

Question 10. The vertex form of a parabola is given by y = a(x - h)^2 + k. In this form, (h, k) represents:
a) The focus of the parabola.
b) The directrix of the parabola.
c) The vertex of the parabola.
d) The y-intercept of the parabola.

Answer Key:

1. a) The highest or lowest point of the curve.
2. b) A fixed line that the curve approaches but never touches.
3. c) A fixed point inside the curve.
4. a) Above the vertex.
5. a) To the left of the vertex.
6. c) Equal to the distance between the vertex and the directrix.
7. d) Below the x-axis.
8. b) The focus and the vertex.
9. a) To the left of the vertex.
10. c) The vertex of the parabola.
11.

Week 31

Question 1. What is the relationship between the slopes of two parallel lines?
a) The slopes are equal
b) The slopes are opposite
c) The slopes are reciprocal
d) The slopes have no relationship

Question 2. What is the relationship between the slopes of two perpendicular lines?
a) The slopes are equal
b) The slopes are opposite
c) The slopes are negative reciprocals of each other
d) The slopes have no relationship

Question 3. If two lines have the same y-intercept, are they necessarily parallel?
a) Yes
b) No
c) Only if the slopes are equal

d) Only if the slopes are negative reciprocals

Question 4. Can two parallel lines have the same y-intercept?
a) Yes
b) No
c) Only if the slopes are equal
d) Only if the slopes are negative reciprocals

Question 5. If a line has a slope of 0, how does it look on a graph?
a) It is a vertical line
b) It is a horizontal line
c) It is a diagonal line
d) It is a curved line

Question 6. What is the slope of a vertical line?
a) 0
b) 1
c) Undefined
d) None of the above

Question 7. If two lines are perpendicular to the same line, are they parallel to each other?
a) Yes
b) No
c) It depends on the slope of the lines
d) It depends on the y-intercept of the lines

Question 8. Can a line be perpendicular to itself?
a) Yes
b) No
c) Only if the slope is 0
d) Only if the slope is undefined

Question 9. If a line is parallel to the x-axis, what can be said about its slope?
a) The slope is 0
b) The slope is 1
c) The slope is undefined
d) The slope is negative

Question 10. If two lines are parallel, what can be said about their x-intercepts?
a) They must be the same
b) They must be different
c) They can be the same or different
d) They have no x-intercepts

Answer Key:

1. a) The slopes are equal
2. c) The slopes are negative reciprocals of each other
3. b) No

4. a) Yes
5. b) It is a horizontal line
6. c) Undefined
7. a) Yes
8. b) No
9. a) The slope is 0
10. c) They can be the same or different

Week 32

Question 1. When you have the equation of a line, where can you find the slope?
a) The coefficient of the x-term
b) The coefficient of the y-term
c) The constant term
d) The y-intercept

Question 2. If you know the slope of one line, how can you find the slope of a line parallel to it?
a) Use the same slope
b) Find the negative reciprocal of the slope
c) Find the positive reciprocal of the slope
d) Add 1 to the slope

Question 3. If you know the slope of one line, how can you find the slope of a line perpendicular to it?
a) Use the same slope
b) Find the negative reciprocal of the slope
c) Find the positive reciprocal of the slope
d) Subtract 1 from the slope

Question 4. If a line has a slope of 5, what will be the slope of a line parallel to it?
a) 5
b) -5
c) 1/5
d) -1/5

Question 5. If a line has a slope of -4, what will be the slope of a line perpendicular to it?
a) 4
b) -4
c) 1/4
d) -1/4

Question 6. If two lines are parallel, what can be said about their y-intercepts?
a) They must be the same
b) They must be different
c) They can be the same or different
d) They have no y-intercepts

Question 7. If two lines are perpendicular and one of them has a slope of 0, what will be the slope of the other line?
a) 0
b) 1
c) Undefined
d) -1

Question 8. In the equation y = mx + b, what does 'm' represent?
a) The y-intercept
b) The x-intercept
c) The slope
d) The constant term

Question 9. In the equation y = mx + b, what does 'b' represent?
a) The y-intercept
b) The x-intercept
c) The slope
d) The constant term

Question 10. If two lines are parallel, what can be said about the angle between them?
a) The angle is 0 degrees
b) The angle is 90 degrees
c) The angle is 180 degrees
d) The angle is 45 degrees

Answer Key:

1. a) The coefficient of the x-term
2. a) Use the same slope
3. b) Find the negative reciprocal of the slope
4. a) 5
5. c) 1/4
6. c) They can be the same or different
7. c) Undefined
8. c) The slope
9. a) The y-intercept
10. a) The angle is 0 degrees

Week 33

Question 1. What is the slope of a horizontal line?
a) 0
b) 1
c) Undefined
d) -1

Question 2. What is the slope of a vertical line?
a) 0
b) 1

c) Undefined
d) -1

Question 3. If two lines are parallel, their slopes are:
a) Equal
b) Unequal
c) Negative reciprocals
d) Positive reciprocals

Question 4. If two lines are perpendicular, their slopes are:
a) Equal
b) Unequal
c) Negative reciprocals
d) Positive reciprocals

Question 5. If the slope of one line is 3, a line perpendicular to it will have a slope of:
a) 3
b) -3
c) -1/3
d) 1/3

Question 6. If the slope of one line is -2, a line parallel to it will have a slope of:
a) 2
b) -2
c) 1/2
d) -1/2

Question 7. The slope of a line can be found using which formula?
a) (y2 - y1) / (x2 - x1)
b) (x2 - x1) / (y2 - y1)
c) (y1 - y2) / (x1 - x2)
d) (x1 - x2) / (y1 - y2)

Question 8. In the slope-intercept form of a linear equation (y = mx + b), what does 'm' represent?
a) Y-intercept
b) X-intercept
c) Slope
d) None of the above

Question 9. If two lines have the same y-intercept, they are:
a) Parallel
b) Perpendicular
c) Neither parallel nor perpendicular necessarily
d) Both parallel and perpendicular

Question 10. If a line has a slope of 0, it is:
a) Horizontal
b) Vertical

c) Increasing
d) Decreasing

Answer Key:

1. a) 0
2. c) Undefined
3. a) Equal
4. c) Negative reciprocals
5. c) -1/3
6. b) -2
7. a) (y2 - y1) / (x2 - x1)
8. c) Slope
9. c) Neither parallel nor perpendicular necessarily
10. a) Horizontal

Week 34

Question 1. To find the perimeter of a triangle on a coordinate plane, you need to find:
a) The length of all three sides and add them up
b) The area of the triangle
c) The coordinates of the midpoint of each side
d) The slope of each side

Question 2. The distance formula is used to find:
a) The area of a triangle
b) The perimeter of a triangle
c) The length of a side of a triangle
d) The height of a triangle

Question 3. To find the area of a triangle given its vertices on a coordinate plane, you can use:
a) The Shoelace theorem
b) The Pythagorean theorem
c) The midpoint formula
d) The slope formula

Question 4. The Shoelace theorem involves:
a) Multiplying the coordinates of the vertices
b) Adding the coordinates of the vertices
c) Using the coordinates of the vertices in a specific formula
d) Dividing the coordinates of the vertices

Question 5. The formula for the area of a triangle is:
a) 1/2 base x height
b) base x height
c) 1/3 base x height
d) 2 x base x height

Question 6. To find the height of a triangle on a coordinate plane, you can:
a) Use the distance formula
b) Use the slope formula
c) Use the midpoint formula
d) All of the above

Question 7. The perimeter of a triangle is:
a) Always equal to the sum of the lengths of the three sides
b) Always equal to twice the length of the longest side
c) Always equal to the area of the triangle
d) Always equal to the height of the triangle

Question 8. The distance formula is derived from:
a) The Shoelace theorem
b) The Pythagorean theorem
c) The midpoint formula
d) The slope formula

Question 9. If you know the lengths of all three sides of a triangle, you can find the perimeter by:
a) Adding the lengths of all three sides
b) Multiplying the lengths of all three sides
c) Dividing the lengths of all three sides
d) Subtracting the lengths of all three sides

Question 10. To find the area of a triangle using the Shoelace theorem, you need to know:
a) The lengths of the sides of the triangle
b) The coordinates of the vertices of the triangle
c) The height of the triangle
d) The base of the triangle

Answer Key:

1. a) The length of all three sides and add them up
2. c) The length of a side of a triangle
3. a) The Shoelace theorem
4. c) Using the coordinates of the vertices in a specific formula
5. a) 1/2 base x height
6. a) Use the distance formula
7. a) Always equal to the sum of the lengths of the three sides
8. b) The Pythagorean theorem
9. a) Adding the lengths of all three sides
10. b) The coordinates of the vertices of the triangle

Week 35

Question 1. What is a cross section in the context of 3-dimensional figures?
a) A type of mathematical operation
b) A slice or a section of a 3-dimensional figure
c) The top view of a 3-dimensional figure
d) The side view of a 3-dimensional figure

Question 2. What shape is the cross section of a sphere when sliced horizontally?
a) Circle
b) Oval
c) Rectangle
d) Square

Question 3. If a cube is sliced diagonally from one corner to the opposite corner, what shape will the cross section be?
a) Triangle
b) Rectangle
c) Square
d) Hexagon

Question 4. What shape is the cross section of a cylinder when sliced vertically through its base and height?
a) Rectangle
b) Circle
c) Oval
d) Triangle

Question 5. If a pyramid is sliced horizontally, what shape will the cross section be?
a) Triangle
b) Square
c) Circle
d) Spiral

Question 6. What shape is the cross section of a cone when sliced horizontally?
a) Circle
b) Oval
c) Rectangle
d) Triangle

Question 7. If a prism has a triangular base and is sliced parallel to its base, what shape will the cross section be?
a) Triangle
b) Rectangle
c) Square
d) Circle

Question 8. What shape is the cross section of a cylinder when sliced horizontally?

a) Circle
b) Oval
c) Rectangle
d) Square

Question 9. If a pyramid with a square base is sliced parallel to its base, what shape will the cross section be?
a) Square
b) Rectangle
c) Circle
d) Triangle

Question 10. What do we call a slice that is made parallel to the base of a 3-dimensional figure?
a) Diagonal slice
b) Horizontal slice
c) Vertical slice
d) Parallel slice

Answer Key:

1. b) A slice or a section of a 3-dimensional figure
2. a) Circle
3. c) Square
4. a) Rectangle
5. a) Square
6. a) Circle
7. a) Triangle
8. a) Circle
9. a) Square
10. d) Parallel slice

Week 36

Question 1. What tool is primarily used to construct a segment?
a) Compass
b) Protractor
c) Ruler
d) Calculator

Question 2. When constructing an angle, what is the point called where the two rays meet?
a) Vertex
b) Intersection
c) Midpoint
d) Endpoint

Question 3. What is the first step in constructing a perpendicular bisector of a segment?
a) Drawing a circle with the midpoint as the center
b) Drawing a straight line

c) Drawing an angle
d) Drawing a square

Question 4. What is a perpendicular bisector?
a) A line segment that divides another line segment into two equal parts and meets it at a 90-degree angle
b) A line segment that divides an angle into two equal parts
c) A line segment that is parallel to another line segment
d) A line segment that divides another line segment into two unequal parts

Question 5. When constructing a segment, what do you use to measure the length of the segment?
a) Compass
b) Protractor
c) Ruler
d) Calculator

Question 6. What is essential to know before constructing an angle?
a) The length of the sides
b) The degree of the angle
c) The radius of the circle
d) The slope of the line

Question 7. When constructing a perpendicular bisector, what shape do you get when you draw circles from both endpoints of the segment?
a) Rectangle
b) Triangle
c) Lens (shape formed by two overlapping circles)
d) Square

Question 8. What is the purpose of constructing a perpendicular bisector of a segment?
a) To find the midpoint of the segment
b) To find the angle bisector
c) To find the parallel line through a point
d) To find the endpoint of a segment

Question 9. What is the first step in constructing an angle?
a) Drawing a straight line
b) Drawing a circle
c) Drawing a point for the vertex
d) Drawing a square

Question 10. What is a segment in geometric constructions?
a) Part of a line that has two endpoints
b) Part of a line that goes on forever in one direction
c) A line that goes on forever in both directions
d) A point in space

Answer Key:

1. c) Ruler
2. a) Vertex
3. a) Drawing a circle with the midpoint as the center
4. a) A line segment that divides another line segment into two equal parts and meets it at a 90-degree angle
5. c) Ruler
6. b) The degree of the angle
7. c) Lens (shape formed by two overlapping circles)
8. a) To find the midpoint of the segment
9. c) Drawing a point for the vertex
10. a) Part of a line that has two endpoints

Week 37

Question 1. Two triangles are similar if:
a) They have the same area.
b) They have the same perimeter.
c) Their corresponding angles are congruent.
d) They have the same height.

Question 2. If two triangles are similar, their corresponding sides are:
a) Congruent
b) In proportion
c) Equal in length
d) Perpendicular

Question 3. The symbol used to denote that two triangles are similar is:
a) =
b) ||
c) ~
d) ≠

Question 4. If two angles of one triangle are congruent to two angles of another triangle, the triangles are:
a) Congruent
b) Complementary
c) Supplementary
d) Similar

Question 5. In a proportion, the terms that are being compared are called:
a) Ratios
b) Extremes
c) Means
d) Fractions

Question 6. The statement "a/b = c/d" is an example of a:
a) Ratio

b) Proportion
c) Equation
d) Inequality

Question 7. If two triangles are similar and the ratio of their corresponding sides is 2:3, then the ratio of their areas is:
a) 2:3
b) 4:6
c) 4:9
d) 6:9

Question 8. The Side-Side-Side (SSS) similarity theorem states that if the three sides of one triangle are proportional to the three sides of another triangle, then the triangles are:
a) Congruent
b) Similar
c) Equal in area
d) Right triangles

Question 9. The Angle-Angle (AA) similarity postulate states that if two angles of one triangle are congruent to two angles of another triangle, then the triangles are:
a) Congruent
b) Similar
c) Equal in area
d) Right triangles

Question 10. If the lengths of the sides of a triangle are doubled, the new triangle is:
a) Congruent to the original triangle
b) Half the size of the original triangle
c) Twice the size of the original triangle
d) Similar to the original triangle

Answer Key

1. c) Their corresponding angles are congruent.
2. b) In proportion
3. c) ~
4. d) Similar
5. a) Ratios
6. b) Proportion
7. c) 4:9
8. b) Similar
9. b) Similar
10. d) Similar to the original triangle