

Geometry Semester Test**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

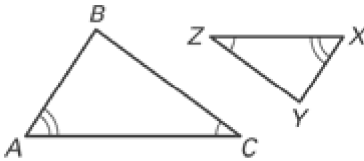
_____ 1. The perimeter of a rectangle is 28. The ratio of the lengths of the sides is 2 : 5. What are the lengths of the sides?

- a. 4 and 14
- b. 13 and 19
- c. 8 and 28
- d. 4 and 10
- e. 6 and 16

_____ 2. Which of the following pairs of numbers has a geometric mean of 10?

- a. 16 and 5
- b. 6 and 20
- c. 4 and 25
- d. 3 and 72
- e. 2 and 100

_____ 3. The triangles shown are similar. Which of the following is *not* a correct statement?



- a. $\frac{AB}{XY} = \frac{BC}{YZ}$
- b. $\frac{BC}{YZ} = \frac{AC}{XZ}$
- c. $\frac{AC}{XZ} = \frac{AB}{XY}$
- d. $\frac{CB}{ZX} = \frac{BA}{YX}$
- e. $\triangle ABC \sim \triangle XYZ$

_____ 4. The distance between two cities on a map is 3 centimeters. The map has a scale of 1 cm : 10 km. Find the actual distance between the two cities.

- a. 30 km
- b. 28.5 km
- c. 3.5 km
- d. 0.35 cm
- e. 30 cm

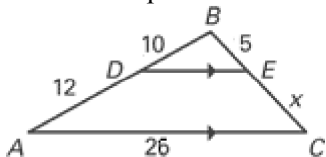
Name: _____

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_____ 5. If $\frac{3+x}{x} = \frac{26}{20}$, then what is the value of x ?

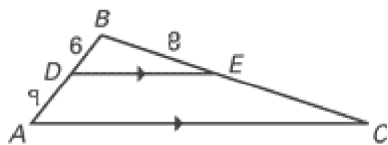
- a. 8
- b. 9
- c. 10
- d. -13
- e. 6

_____ 6. What is the perimeter of $\triangle ABC$?



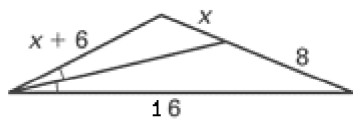
- a. 100
- b. 53
- c. 59
- d. 42
- e. 65

_____ 7. What is CE ?



- a. 15
- b. 6
- c. 17
- d. 12
- e. 11.25

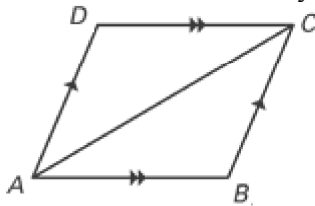
_____ 8. What is the value of x in the figure shown?



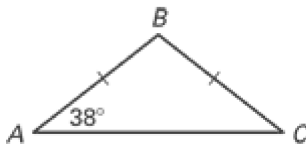
- a. 5
- b. 3
- c. 2
- d. 7
- e. 6

- _____ 9. Which of the following terms can be used to describe a triangle that has two congruent sides?
- isosceles
 - right
 - scalene
 - acute
 - equilateral
- _____ 10. Which of the following terms can be used to describe a triangle whose angle measures are 60° , 90° , and 30° ?
- equiangular
 - obtuse
 - acute
 - equilateral
 - right
- _____ 11. Given $\triangle PRQ \cong \triangle XYZ$, which side is congruent to \overline{PR} ?
- \overline{XZ}
 - \overline{XY}
 - \overline{YZ}
 - \overline{ZY}
 - Cannot be determined

- _____ 12. Which statement correctly describes the congruence of the triangles in the diagram?

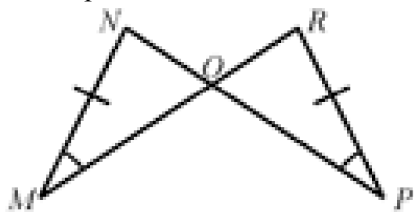


- $\triangle ABC \cong \triangle ADC$
 - $\triangle ABC \cong \triangle CDA$
 - $\triangle ABC \cong \triangle CAD$
 - None of these
 - $\triangle ABC \cong \triangle DCA$
- _____ 13. What is the measure of $\angle C$?



- 104°
- Cannot be determined
- 90°
- 38°
- 52°

- ____ 14. Which postulate or theorem can be used to prove $\triangle MNO \cong \triangle PRO$?

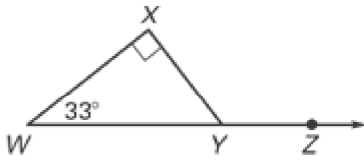


- a. SAS
 b. SSS
 c. AAS
 d. ASA
 e. HL
- ____ 15. You are given the following information about $\triangle ABC$ and $\triangle XYZ$. Which combination *cannot* be used to prove that $\triangle ABC \cong \triangle XYZ$?
- I. $\angle A \cong \angle X$
 II. $\angle C \cong \angle Z$
 III. $\overline{AC} \cong \overline{XZ}$
 IV. $\overline{BC} \cong \overline{YZ}$
- a. I, II, and IV
 b. All combinations can be used.
 c. I, III, and IV
 d. I, II, III, and IV
 e. II, III, and IV
- ____ 16. What is the value of x ?



- a. 10
 b. 25
 c. 5
 d. 15
 e. -10

___ 17. What is the measure of $\angle XYZ$?

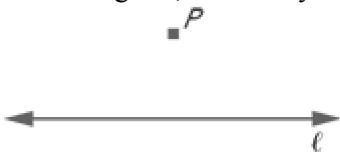


- a. 123°
- b. 128°
- c. 119°
- d. 132°
- e. Cannot be determined

___ 18. If two lines do not intersect and are coplanar, then they must be ?.

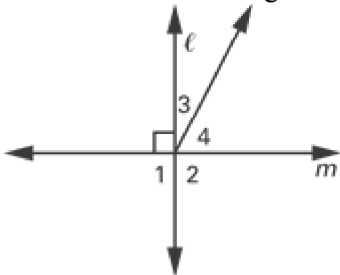
- a. skew
- b. coplanar
- c. perpendicular
- d. parallel

___ 19. In the diagram, how many lines can be drawn through point P that are parallel to line ℓ ?



- a. 1
- b. 0
- c. 3
- d. 2
- e. More than 3

___ 20. Which of the following is *not* true if $\ell \perp m$?



- a. $m\angle 2 = 90^\circ$
- b. $m\angle 1 = m\angle 3 + m\angle 2$
- c. $\angle 3$ and $\angle 4$ are Complementary.
- d. $m\angle 3 + m\angle 4 = 90^\circ$
- e. $\angle 1 \cong \angle 2$

_____ 21. Which of the following is an equation of a line parallel to $y - 1 = 5x$?

a. $3y - 3 = 5x$

b. $y = 5x - \frac{2}{3}$

c. $y = \frac{1}{2}x - 3$

d. $y = -5x - 3$

e. $y = \frac{2x+3}{2}$

_____ 22. Which of the following is an equation of a line perpendicular to $y = -22x - 1$?

a. $y = \frac{1}{2}x - 3$

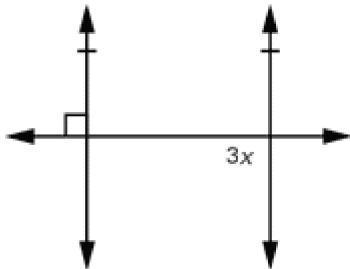
b. $y + 3 = -2x$

c. $y = \frac{1}{2}x + 3$

d. $3 = y - x$

e. $2y - 3 = 2x$

_____ 23. In the diagram, find the value of x .



a. 24°

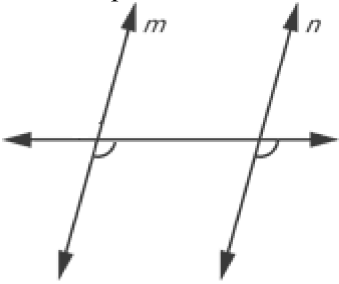
b. 30°

c. 90°

d. 15°

e. 12°

___ 24. State the postulate or theorem you would use to prove that lines m and n are parallel.



- a. Corresponding Angles Converse
- b. Alternate Interior Angles Converse
- c. Consecutive Interior Angles Converse
- d. Alternate Exterior Angles Converse
- e. Vertical Angles Congruence Theorem

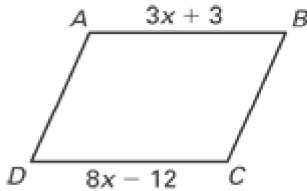
___ 25. What is the next number in the pattern $-3, -5, -7, \dots$?

- a. -1
- b. 9
- c. $-\frac{16}{2}$
- d. -3
- e. -9

___ 26. What is the inverse of "If it is raining, then we will not go to the beach?"

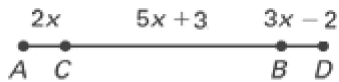
- a. If we do not go to the beach, then it is raining.
- b. None of the above.
- c. If it is not raining, then we will go to the beach.
- d. If we go to the beach, then it is not raining.
- e. We will go to the beach if and only if it is not raining.

___ 27. In $ABCD$, $\overline{AB} \cong \overline{CD}$ and $\overline{BC} \cong \overline{AD}$. What is the value of x ?



- a. 5
- b. 3
- c. 15
- d. 10
- e. 7

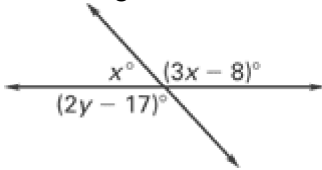
___ 28. $\overline{AB} \cong \overline{CD}$. Find the length of \overline{BD} .



- a. 10
- b. 2
- c. 4
- d. 8
- e. -7

- ____ 29. What is the distance between point $A(-7, 2)$ and point $B(-3, -1)$?
- 5
 - 11
 - 2.2
 - 8.5
 - 73

- ____ 30. In the diagram, what are the values of x and y ?



- $x = 75, y = 47$
 - $x = 47, y = 75$
 - $x = 71, y = 51$
 - $x = 45, y = 76$
 - $x = 47, y = 74$
- ____ 31. $\angle A$ and $\angle T$ are complementary. The measure of $\angle T$ is twice times the measure of $\angle A$. What is $m\angle A$?
- 30°
 - 23.5°
 - 35°
 - 20°
 - 25°
- ____ 32. Given points $G(-2, -10)$ and $H(-6, -10)$, find the coordinates of the midpoint of \overline{GH} .
- $(-4, -10)$
 - $(-2, 10)$
 - $(8, 20)$
 - $(-2, 0)$
 - $(-4, 0)$
- ____ 33. Given $\angle BAD$, and a third ray AC in the interior of $\angle BAD$, if $m\angle BAC = 70^\circ$ and $m\angle CAD = 20^\circ$, then the two angles are ____?
- a linear pair
 - complementary and a linear pair
 - complementary
 - supplementary and a linear pair
 - supplementary

**Geometry Semester Test
Answer Section**

MULTIPLE CHOICE

1. D
2. C
3. D
4. A
5. C
6. C
7. D
8. C
9. A
10. E
11. B
12. B
13. D
14. C
15. B
16. B
17. A
18. D
19. A
20. B
21. B
22. C
23. B
24. A
25. E
26. C
27. B
28. B
29. A
30. D
31. A
32. A
33. D