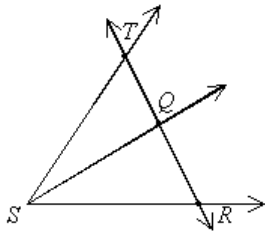


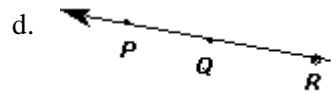
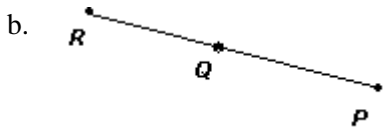
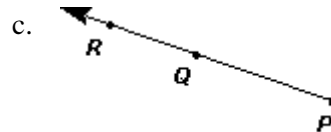
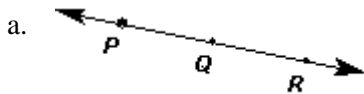
### Concepts of Geometry CFA #1- Week 3

\_\_\_ 1. Name three points that are collinear.

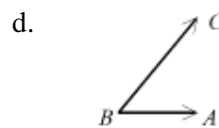
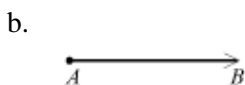
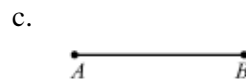
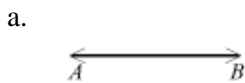


- a. points  $T, Q,$  and  $R$
- b. points  $T, Q,$  and  $S$
- c. points  $S, Q,$  and  $R$
- d. points  $T, S,$  and  $R$

\_\_\_ 2.  $\overrightarrow{PR}$  is represented by which sketch?



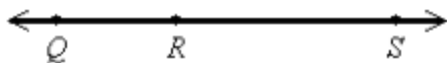
\_\_\_ 3. Draw a labeled diagram for a line.



\_\_\_ 4. The notation for the length of the segment between  $P$  and  $Q$  is \_\_\_\_\_.

- a.  $\overleftrightarrow{PQ}$
- b.  $\overline{PQ}$
- c.  $\overrightarrow{QP}$
- d.  $PQ$

\_\_\_ 5. If  $RS = 44$  and  $QS = 68$ , find  $QR$ .



- a. 14
- b. 44
- c. 112
- d. 24

\_\_\_ 6. Let  $C$  be between  $D$  and  $E$ . Use the Segment Addition Postulate to solve for  $v$ .

$$DC = 3v - 30$$

$$CE = 6v - 15$$

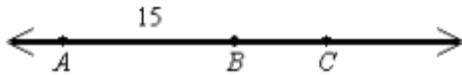
$$DE = 27$$

- a.  $v = 3$                       b.  $v = 11$                       c.  $v = -5$                       d.  $v = 8$

\_\_\_ 7.  $R$ ,  $S$ , and  $T$  are collinear.  $S$  is between  $R$  and  $T$ .  $RS = 2w + 1$ ,  $ST = w - 1$ , and  $RT = 18$ . Use the Segment Addition Postulate to solve for  $w$ . Then determine the length of  $\overline{RS}$ .

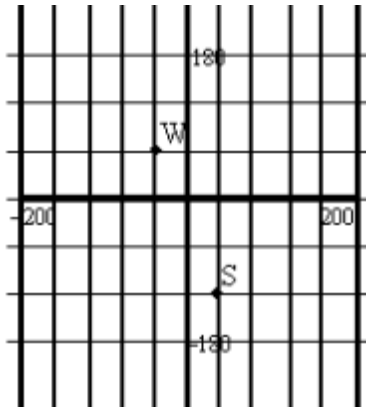
- a. 16                      b. 5                      c. 13                      d. 6

\_\_\_ 8. If  $AB = 15$  and  $AC = 23$ , find the length of  $\overline{BC}$ .



- a. 1                      b. 15                      c. 8                      d. 38

\_\_\_ 9. On a certain farm, individual crops are laid out in rectangles that are 60 feet north and south, and 40 feet east and west. How far would you have to walk to get from the shed (S) to the well (W) if you did not step on any crops? How far would it be if you walked diagonally across the crops?

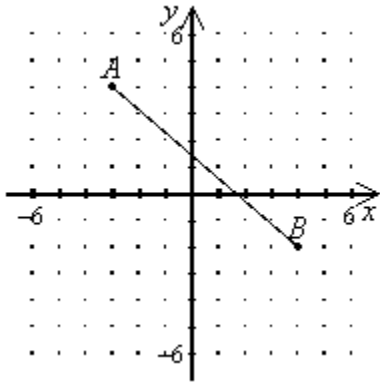


- a. 260 feet; about 197 feet                      c. 197 feet; about 260 feet  
b. 240 feet; about 170 feet                      d. 170 feet; about 240 feet

\_\_\_ 10. Find the distance between the points  $(1, 4)$  and  $(-2, -1)$ .

- a.  $\sqrt{10}$                       c. 34  
b. 10                      d.  $\sqrt{34}$

\_\_\_ 11. The distance between points  $A$  and  $B$  is \_\_\_\_\_.



- a.  $\sqrt{13}$       b.  $\sqrt{11}$       c.  $\sqrt{85}$       d. 85

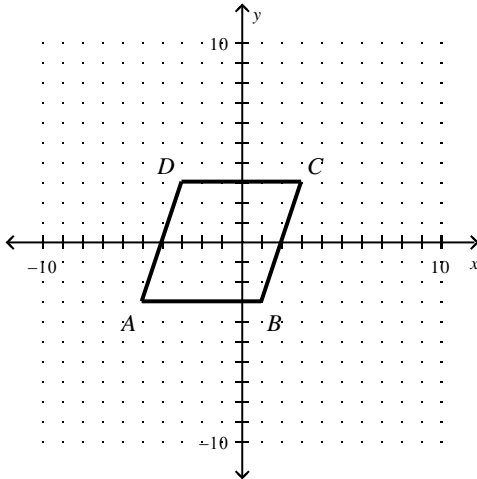
\_\_\_ 12.  $T$  is the midpoint of  $\overline{PQ}$ . Which one of the following is *not* an appropriate statement?

- a.  $\overline{PT} = \overline{TQ}$       c.  $\overline{PT} \cong \overline{TQ}$   
 b.  $\overline{PT} = \overline{TQ}$       d.  $\overline{PT} + \overline{TQ} = \overline{PQ}$

\_\_\_ 13. Find the midpoint of the segment with endpoints  $(9, 8)$  and  $(3, 5)$ .

- a.  $(3, \frac{3}{2})$       c.  $(6, \frac{13}{2})$   
 b.  $(12, 13)$       d.  $(1, -2)$

\_\_\_ 14. The diagonals of parallelogram  $ABCD$  have a common midpoint.



Which of the following is the midpoint of the diagonals of  $ABCD$ ?

- a.  $(4, 0)$       c.  $(4, 3)$   
 b.  $(-1, 0)$       d.  $(-1, 3)$

\_\_\_ 15. Which angle measures approximately  $72^\circ$ ?

- a.       c. 

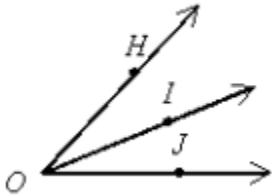
b.



d.



\_\_\_ 16. If  $m\angle IOJ = 22^\circ$  and  $m\angle HOI = 25^\circ$ , then what is the measure of  $\angle HOJ$ ?



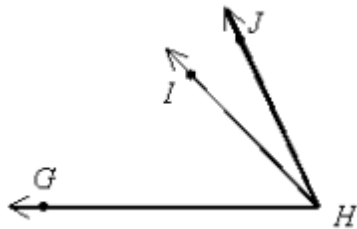
a.  $45^\circ$

b.  $44^\circ$

c.  $52^\circ$

d.  $47^\circ$

\_\_\_ 17.  $m\angle JHI = (2x + 7)^\circ$  and  $m\angle GHI = (8x - 2)^\circ$  and  $m\angle JHG = 65^\circ$ .  
Find  $m\angle JHI$  and  $m\angle GHI$ .



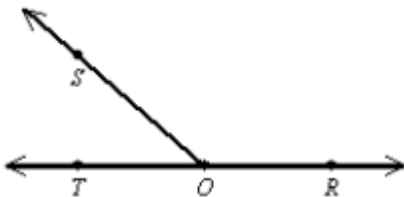
a.  $m\angle JHI = 19^\circ$  and  $m\angle GHI = 46^\circ$

b.  $m\angle JHI = 46^\circ$  and  $m\angle GHI = 19^\circ$

c.  $m\angle JHI = 13^\circ$  and  $m\angle GHI = 52^\circ$

d.  $m\angle JHI = 52^\circ$  and  $m\angle GHI = 13^\circ$

\_\_\_ 18. If angle  $ROS$  is obtuse and angle  $TOR$  is straight, then angle  $TOS$  is what kind of angle?



a. obtuse

b. right

c. straight

d. acute

\_\_\_ 19. If an obtuse angle is bisected, the resulting angles are \_\_\_\_\_.

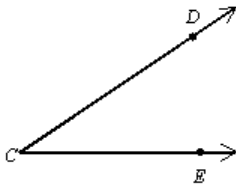
a. always acute

c. never congruent

b. right angles

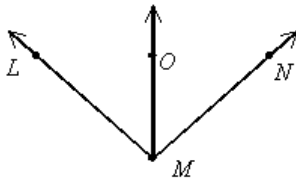
d. always obtuse

\_\_\_ 20. Which does *not* name the angle below?



- a.  $\angle DCE$       b.  $\angle CDE$       c.  $\angle ECD$       d.  $\angle C$

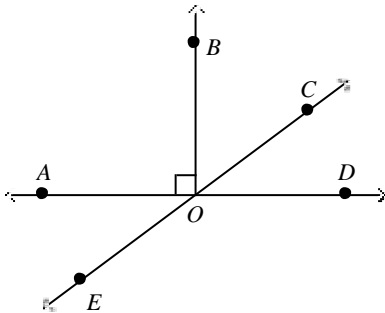
\_\_\_ 21. In the figure (not drawn to scale),  $\overrightarrow{MO}$  bisects  $\angle LMN$ ,  $m\angle LMO = (13x - 31)^\circ$ , and  $m\angle NMO = (x + 53)^\circ$ . Solve for  $x$  and find  $m\angle LMN$ .



- a. 2,  $38^\circ$       b. 2,  $7^\circ$       c. 7,  $207^\circ$       d. 7,  $120^\circ$

\_\_\_ 22. The nonshared sides of two adjacent angles form a pair of opposite rays. The angles are \_\_\_\_\_.  
 a. acute  
 b. complementary  
 c. a linear pair  
 d. vertical angles

\_\_\_ 23. Name an angle adjacent to  $\angle AOB$ .



- a.  $\angle BOE$       c.  $\angle BOD$   
 b.  $\angle COD$       d.  $\angle DOE$

**Complete the conditional statement to make a true statement.**

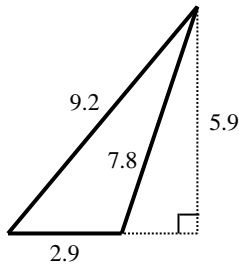
\_\_\_ 24. If  $\angle R$  and  $\angle S$  are complementary and  $m\angle R = 35^\circ$ , then  
 a.  $m\angle S = 145^\circ$       b.  $m\angle S = 125^\circ$       c.  $m\angle S = 55^\circ$       d.  $m\angle S = 215^\circ$

\_\_\_ 25. Find the circumference of the circle. Use  $\pi = 3.14$ .



- a. 17.72 in.      b. 150.72 in.      c. 452.16 in.      d. 75.36 in.

\_\_\_ 26. Find the area. All lengths are in centimeters.



- a.  $17.11 \text{ cm}^2$       c.  $8.555 \text{ cm}^2$   
 b.  $11.31 \text{ cm}^2$       d.  $19.9 \text{ cm}^2$

\_\_\_ 27. A wooden fence is to be built around a 50 m-by-62 m lot. How many meters of fencing will be needed? If the wood for the fence costs \$47.75 per meter, what will the wood for the fence cost?

a. 3100 m, \$148,025.00      c. 224 m, \$10,696.00  
 b. 3100 m, \$10,696.00      d. 224 m, \$148,025.00

**Use the formula for the area of a triangle ( $A = \frac{1}{2}bh$ ) to find the value of the unknown variable.**

\_\_\_ 28. Henry wants to use 48 feet of fencing to enclose part of his yard for a garden. Which of the figures described would use all 48 feet of fencing and enclose the largest area of Henry's yard?

a. A rectangle with a length of 14 feet and a width of 10 feet  
 b. A rectangle with a length of 16 feet and a width of 8 feet  
 c. A square with a side length of 12 feet  
 d. A circle with a radius of about 7.6 feet

**Concepts of Geometry CFA #1- Week 3**  
**Answer Section**

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