

# #30 Practice Test Ch. 5

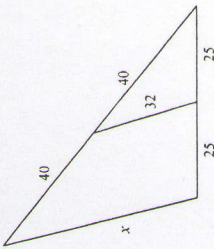
Name: \_\_\_\_\_

Per. \_\_\_\_\_

**Multiple Choice**

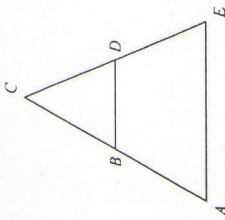
Identify the choice that best completes the statement or answers the question.

1. Find the value of  $x$ . The diagram is not to scale.



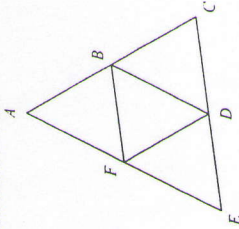
- a. 32
- b. 50
- c. 64
- d. 80

2.  $B$  is the midpoint of  $\overline{AC}$ ,  $D$  is the midpoint of  $\overline{CE}$ , and  $AE = 21$ . Find  $BD$ . The diagram is not to scale.



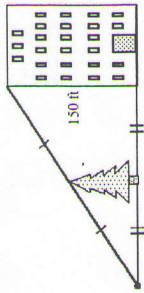
- a. 42
- b. 21
- c. 11.5
- d. 10.5

3. Points  $B$ ,  $D$ , and  $F$  are midpoints of the sides of  $\triangle ACE$ .  $EC = 30$  and  $DF = 23$ . Find  $AC$ . The diagram is not to scale.



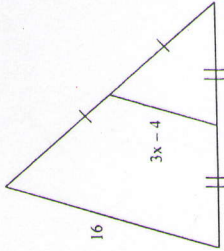
- a. 30
- b. 11.5
- c. 60
- d. 46

4. Use the information in the diagram to determine the height of the tree. The diagram is not to scale.



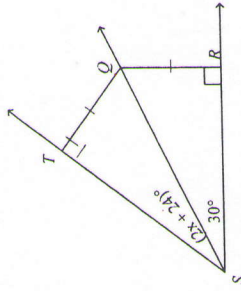
- a. 75 ft
- b. 150 ft
- c. 35.5 ft
- d. 37.5 ft

5. Find the value of  $x$ .



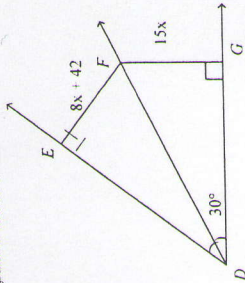
- a. 4
- b. 8
- c. 6.6
- d. 6

6.  $Q$  is equidistant from the sides of  $\angle TSP$ . Find the value of  $x$ . The diagram is not to scale.



- a. 27
- b. 3
- c. 15
- d. 30

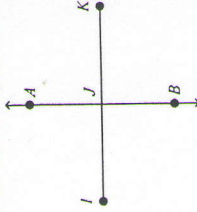
7.  $\overline{DF}$  bisects  $\angle EDG$ . Find the value of  $x$ . The diagram is not to scale.



- a.  $\frac{23}{42}$
- b. 90
- c. 30
- d. 6

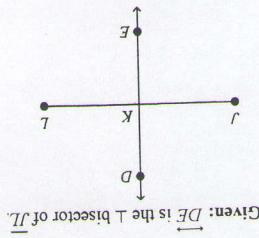
8. Which statement can you conclude is true from the given information?

Given:  $\overline{AB}$  is the perpendicular bisector of  $\overline{JK}$ .



- a.  $\overline{AJ} = \overline{BJ}$
- b.  $\angle AJJ$  is a right angle.
- c.  $\overline{JL} = \overline{JK}$
- d.  $A$  is the midpoint of  $\overline{JK}$ .

9. Which statement is not necessarily true?



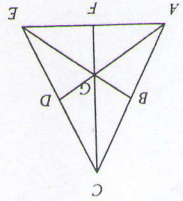
- a.  $\overline{DK} = \overline{KE}$
- b.  $\overline{DK} \perp \overline{JL}$
- c.  $K$  is the midpoint of  $\overline{JL}$
- d.  $\overline{DK} = \overline{DL}$

10. Where is the center of the largest circle that you could draw inside a given triangle?

- a. the point of concurrency of the altitudes of the triangle
- b. the point of concurrency of the perpendicular bisectors of the sides of the triangle
- c. the point of concurrency of the bisectors of the angles of the triangle
- d. the point of concurrency of the medians of the triangle

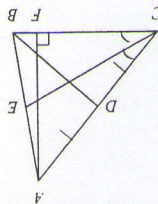
11. In  $\triangle ACE$ ,  $G$  is the centroid and  $BE = 9$ . Find  $BG$  and  $GE$ .

- a.  $BG = 2\frac{1}{2}$ ,  $GE = 6\frac{1}{2}$
- b.  $BG = 3$ ,  $GE = 6$
- c.  $BG = 6$ ,  $GE = 3$
- d.  $BG = 4\frac{1}{2}$ ,  $GE = 4\frac{1}{2}$

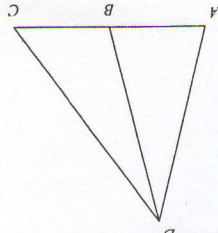


- a.  $\overline{AD}$
- b.  $\overline{CE}$
- c.  $\overline{AF}$
- d.  $\overline{BD}$

12. Name a median for  $\triangle ABC$ .



13. Find the length of  $\overline{AB}$ , given that  $\overline{DB}$  is a median of the triangle and  $AC = 26$ .

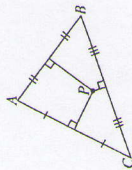


- a. 13
- b. 26
- c. 52
- d. not enough information

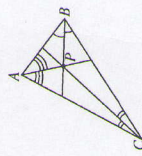
14. For a triangle, list the respective names of the points of concurrency of
- perpendicular bisectors of the sides
  - bisectors of the angles
  - medians
  - lines containing the altitudes.

- incenter  
circumcenter  
centroid  
orthocenter
- incenter  
circumcenter  
incenter  
orthocenter
- circumcenter  
incenter  
orthocenter  
centroid
- incenter  
circumcenter  
orthocenter  
centroid

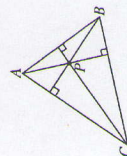
15. Which diagram shows a point  $P$  an equal distance from points  $A$ ,  $B$ , and  $C$ ?



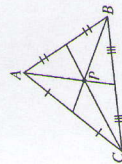
b.



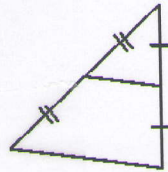
c.



d.



16. What is the name of the segment inside the large triangle?

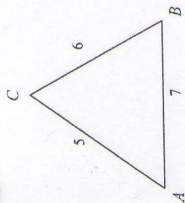


- perpendicular bisector
- altitude
- median
- midsegment

18. What is the inverse of this statement?

- If he speaks Arabic, he can act as the interpreter.
- If he does not speak Arabic, he can act as the interpreter.
- If he speaks Arabic, he can't act as the interpreter.
- If he can act as the interpreter, then he does not speak Arabic.
- If he does not speak Arabic, he can't act as the interpreter.

19. Name the smallest angle of  $\triangle ABC$ . The diagram is not to scale.

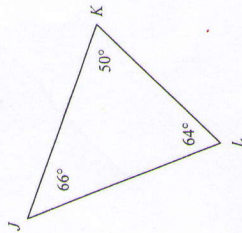


- $\angle A$
- $\angle C$
- Two angles are the same size and smaller than the third.
- $\angle B$

17. What is the negation of this statement?

- It was not Miguel's team that won the game.
- Miguel's team lost the game.
- Miguel's team did not win the game.
- Miguel's team did not play the game.

20. List the sides in order from shortest to longest. The diagram is not to scale.



- $\overline{JK}, \overline{LJ}, \overline{JK}$
- $\overline{LJ}, \overline{LK}, \overline{JK}$
- $\overline{LJ}, \overline{JK}, \overline{LK}$
- $\overline{LK}, \overline{JK}, \overline{LJ}$

21. Which three lengths could be the lengths of the sides of a triangle?

- 12 cm, 5 cm, 17 cm
- 10 cm, 15 cm, 24 cm
- 9 cm, 22 cm, 11 cm
- 21 cm, 7 cm, 6 cm

22. Which three lengths can NOT be the lengths of the sides of a triangle?

- 23 m, 17 m, 14 m
- 11 m, 11 m, 12 m
- 5 m, 7 m, 8 m
- 21 m, 6 m, 10 m

23. Two sides of a triangle have lengths 10 and 18. Which inequalities describe the values that possible lengths for the third side?

- $x \geq 8$  and  $x \leq 28$
- $x > 8$  and  $x < 28$
- $x > 10$  and  $x < 18$
- $x \geq 10$  and  $x \leq 18$

24. Two sides of a triangle have lengths 10 and 15. What must be true about the length of the third side,  $x$ ?

- $5 < x < 25$
- $5 < x < 10$
- $5 < x < 15$
- $10 < x < 15$

25. Two sides of a triangle have lengths 6 and 17. Which expression describes the length of the third side?

- at least 11 and less than 23
- at least 11 and at most 23
- greater than 11 and at most 23
- greater than 11 and less than 23

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