

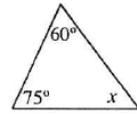
Name: \_\_\_\_\_

ACT Prep Exam Study Guide

Mark correct answers on the answer sheet. Only answers recorded on the answer sheet will be graded.

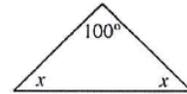
1. Find the value of  $x$  in the figure.

- a. 60                      b. 75                      c. 45                      d. 135



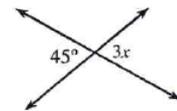
2. Find the value of  $x$  in the figure.

- a. 80                      b. 40                      c. 180                      d. 100



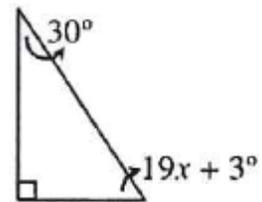
3. Find the value of  $x$  in the figure.

- a. 45                      b. 135                      c. 90                      d. 15



4. Which equation represents a solution to find  $x$ ?

- a.  $19x + 3 = 30$   
 b.  $19x + 3 = 60$   
 c.  $19x + 3 + 30 = 180$   
 d.  $19x + 3 = 90$

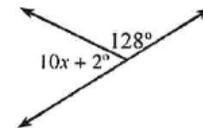


5. Find the value of  $x$  in #4.

- a. 3                      b. 7                      c. 1.5                      d. 5

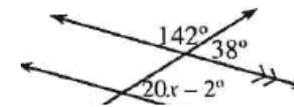
6. Find the value of  $x$  in the figure.

- a. 12.6                      b. 8.8                      c. 5                      d. 17.8



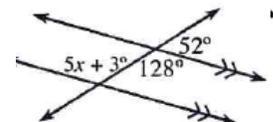
7. Find the value of  $x$  in the figure.

- a. 38                      b. 142                      c. 2                      d. 7.2



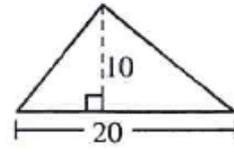
8. Which equation can you use to solve for  $x$ ?

- a.  $5x + 3 = 128$   
 b.  $5x + 3 + 128 = 180$   
 c.  $5x + 3 = 52$   
 d.  $128 - (5x + 3) = 180$



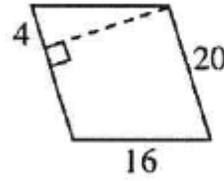
9. Find the area of the figure.

- a. 200
- b. 100
- c. 300
- d. 400



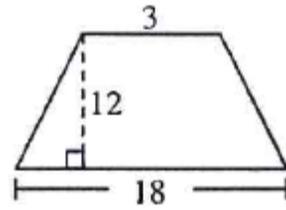
10. Find the area of the figure.

- a. 80
- b. 64
- c. 320
- d. 310



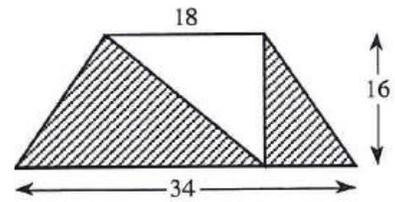
11. Find the area of the figure.

- a. 252
- b. 216
- c. 126
- d. 54



12. Find the area of the shaded region.

- a. 832
- b. 416
- c. 272
- d. 144

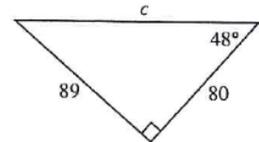


13. Standing 4 feet from a mirror lying on the flat ground, Palmer, whose eye height is 5 feet, 9 inches, can see the reflection of the top of a tree. He measures the mirror to be 24 feet from the tree. How tall is the tree?

- a. 16.7 feet
- b. 34.5 feet
- c. 41.3 feet
- d. 55.4 feet

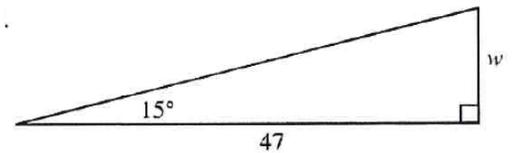
14. Find the missing side length.

- a. 119.67
- b. 133.01
- c. 107.65
- d. 72.03



15. Find the missing side length.

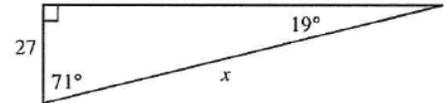
- a. 12.16
- b. 45.4
- c. 12.59
- d. 72.3



16. A ladder makes a 75 degree angle with the ground as it leans against a wall. The base of the ladder is 5 feet from the wall. How high up the wall does the ladder reach?
- 1.33 feet
  - 18.66 feet
  - 4.83 feet
  - 1.29 feet

17. Which of the following can be used to find the value of  $x$  in

Figure 17 ?



- Pythagorean Theorem
  - Sine Ratio
  - Cosine Ratio
  - Tangent Ratio
- a. i, ii, iii, iv      b. ii, iii      c. ii, iii, iv      d. iv only

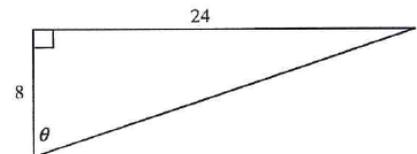
18. Find the value of  $x$  in the figure found in #17.

- 82.9
- 28.6
- 25.5
- 8.8

19. Which of the following can be used to find the measure of angle Theta in # 18?

- $\sin^{-1}$
- $\cos^{-1}$
- $\tan^{-1}$

- a. i, ii      b. i only      c. ii only      d. iii only



20. Find the measure of angle Theta in the figure in #18.

- 19.5 degrees
- 70.5 degrees
- 71.6 degrees
- 18.4 degrees

21. . Nell's kite has a 350 foot long string. When it is completely let out, Ian measures the angle to be 47.5 degrees. How far would Ian need to walk to be directly under the kite?
- 258.05
  - 474.72
  - 236.46
  - 518.07
22. An 18 foot ladder rests against a wall. The base of the ladder is 8 feet from the wall. What angle does the ladder make with the ground?
- 63.61
  - 26.39
  - 23.96
  - 66.04
23. In a 30-60-90 triangle, the ratio of sides lengths is:
- $a^2 + b^2 = c^2$
  - 1 : 2:  $\sqrt{3}$
  - 1: 1:  $\sqrt{2}$
24. In a 45-45-90 triangle, the ratio of sides lengths is:
- $a^2 + b^2 = c^2$
  - 1 : 2:  $\sqrt{3}$
  - 1: 1:  $\sqrt{2}$
25. The distance from the center of any polygon to any side is called the:
- Radius
  - Apothem
  - Diameter
  - Perimeter