Exam

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Add.

1) Write the following angle in degrees and minutes. (Round to the nearest whole minute.) 1) _____

47 5/8°

A) 47° 38' B) 47° 37' C) 47° 53' D) 47° 12'

2) Write the following angle in degrees and minutes. (Round to the nearest whole minute.) 2) _____

101.88°

A) 101° 53' B) 101° 52' C) 101° 63' D) 47° 37'

3) Write the following angle in decimal degrees. (Round to the nearest hundreth, if necessary.) 3) _____

16° 51'

A) 16.51° B) 16.85° C) 16.8° D) 16°

4) Write the following angle in decimal degrees. (Round to the nearest hundreth, if necessary.) 4) _____

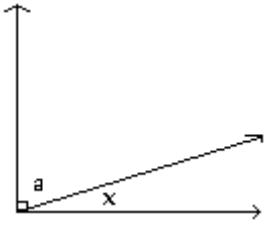
108° 71'

A) 109.18° B) 108.71° C) 108.18° D) 109°

Solve the problem.

5) Find the measure of angle x. 5) _____

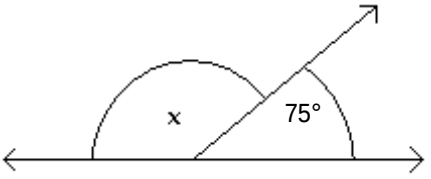
a = 52°



A) 48° B) 38° C) 28° D) 33°

Find the measure of the unknown angles. Figures are not drawn to scale.

6) 6) _____

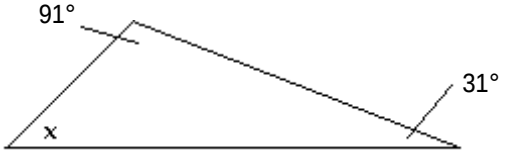


Find the measure of ∠x.

A) 165° B) 15° C) 105° D) 25°

Find the missing angle measure.

7) 7) _____



A) 122° B) 48° C) 58° D) 89°

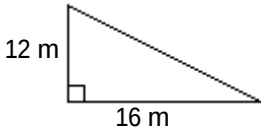
Find the missing angle in the triangle.

8) Two angles are 38° and 14°. 8) _____

A) 52° B) 128° C) 38° D) 308°

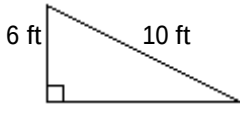
Find the unknown side of the right triangle. Use a calculator or square root table when necessary and round to the nearest thousandth.

9) 9) _____



A) 20 m B) 14 m C) 10.583 m D) 19 m

10) 10) _____



A) 7 ft B) 9 ft C) 10 ft D) 8 ft

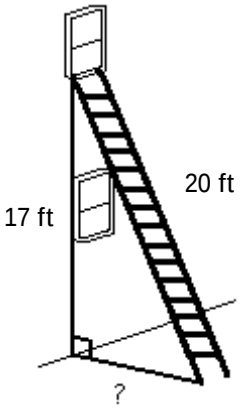
Find the unknown side of the right triangle using the information given to the nearest thousandth.

11) hypotenuse = 14 yd, leg = 8 yd 11) _____

A) 16.125 yd B) 2.449 yd C) 4.69 yd D) 11.489 yd

Solve. Round to the nearest tenth.

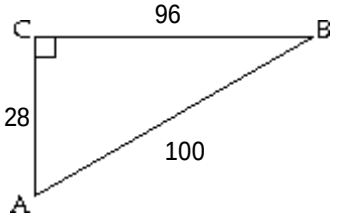
12) A 20-ft-tall ladder is placed so that it reaches 17 ft up on the wall of a house. How far is the base of the ladder from the wall of the house? 12) _____



A) 10.5 ft B) 689 ft C) 111 ft D) 26.2 ft

Find the exact values of the indicated trigonometric functions. Write fractions in lowest terms.

13) 13) _____



Find sin B and tan B.

A) $\sin B = \frac{7}{25}$; $\tan B = \frac{7}{24}$ B) $\sin B = \frac{25}{7}$; $\tan B = \frac{24}{7}$

C) $\sin B = \frac{7}{24}$; $\tan B = \frac{7}{25}$ D) $\sin B = \frac{24}{25}$; $\tan B = \frac{24}{7}$

Use a calculator to determine the value of the trigonometric ratio. Round your answer to four decimal places.

14) sin 52° 14) _____

A) 0.3746 B) 0.6157 C) 0.9903 D) 0.7880

15) cos 67.51° 15) _____

A) 0.1307 B) 0.9239 C) 0.3825 D) 0.7932

16) tan 58.92° 16) _____

A) 0.5525 B) 53.0417 C) 1.6590 D) 0.5162

Solve the right triangle.

17) a = 2.0 cm, b = 1.8 cm 17) _____

A) A = 64°, B = 26°, c = 3.8 cm B) A = 48°, B = 42°, c = 2.7 cm

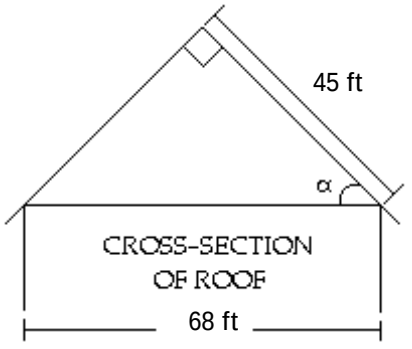
C) A = 44°, B = 46°, c = 2.7 cm D) A = 42°, B = 48°, c = 2.7 cm

18) B = 42.4°, a = 0.405 mm 18) _____

A) A = 47.6°, b = 0.299 mm, c = 0.601 mm
B) A = 47.6°, b = 0.273 mm, c = 0.444 mm
C) A = 47.6°, b = 0.370 mm, c = 0.548 mm
D) A = 47.6°, b = 0.370 mm, c = 0.601 mm

Solve the problem.

19) Determine the value of α. 19) _____



A) 49° B) 2° C) 1° D) 41°

20) When sitting atop a tree and looking down at his pal Joey, the angle of depression of Mack's line of sight is 58.3°. If Joey is known to be standing 39 ft from the base of the tree, how tall is the tree? 20) _____

A) 63 ft B) 69 ft C) 67 ft D) 65 ft

Solve the triangle with the given parts by use of the Law of Sines.

21) c = 9, A = 21°, B = 58° 21) _____

A) C = 101°, a = 24.7, b = 7.8
B) C = 101°, a = 3.3, b = 21.3
C) C = 101°, a = 3.3, b = 7.8
D) C = 101°, a = 24.7, b = 21.3

22) a = 20, b = 13, A = 32° 22) _____

A) B = 20.1°, C = 127.9°, c ≈ 17.9
B) B = 20.1°, C = 147.9°, c ≈ 23.8
C) B = 20.1°, C = 127.9°, c ≈ 29.8
D) No solution

Solve the problem.

23) To find the distance AB across a river, a distance BC = 1295 m is laid off on one side of the river. It is found that B = 101.1° and C = 18.2°. Find AB. 23) _____

A) 408 m B) 467 m C) 464 m D) 405 m

Use the Law of Cosines to solve the triangles with the given parts.

24) b = 20, c = 28, A = 81° 24) _____

A) a = 31.8, B = 38.5°, C = 60.5°
B) a = 34.3, B = 42.5°, C = 56.5°
C) a = 34.3, B = 38.5°, C = 60.5°
D) No solution

25) a = 5, b = 10, c = 8 25) _____

A) A = 29.7°, B = 52.4°, C = 97.9°
B) A = 29.7°, B = 100.9°, C = 49.4°
C) A = 29.7°, B = 97.9°, C = 52.4°
D) No solution

Answer Key

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