Name: _____ Class: _____ Date: _____ ID: A

Ch 4 Practice Test

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

____ 1. Which of the following is not a Pythagorean triple?

a. 9, 11, 17
b. 7, 24, 25
c. 8, 15, 17
d. 3, 4, 5

____ 2. Each side of a square is 10 cm long. What is the length of the diagonal of the square?

a. 14.14 cm
b. 18.54 cm
c. 17.14 cm
d. 20.14 cm

____ 3. A rectangle has a length of 12 cm and an area of 120 cm^2. What is the length of the diagonal of the rectangle?

a. 17.62 cm
b. 15.62 cm
c. 120.60 cm
d. 119.40 cm

____ 4. What is the sine of 19°?

a. 0.946
b. 0.344
c. 0.360
d. 0.326

____ 5. A right triangle has an angle of 8° and the opposite side is 246 cm. What is the length of the hypotenuse?

a. 248.42 cm
b. 1778.88 cm
c. 1750.38 cm
d. 1767.58 cm

____ 6. What is the cosine of 59°?

a. 0.857
b. 0.515
c. 1.664
d. 0.891

____ 7. A right triangle has a hypotenuse of 1.4 cm. If one of the angles is 45°, what is the adjacent side?

a. 0.99 cm
b. 1.40 cm
c. 1.36 cm
d. 2.2 cm

____ 8. The tangent ratio relates to which two sides of a right triangle?

a. The side adjacent to a given angle and the hypotenuse.
b. The side adjacent to a given angle and the vertical side.
c. The side opposite a given angle and the adjacent side.
d. The side opposite a given angle and the hypotenuse.

____ 9. The tangent ratio is _____ as the angle increases from 0° to 90°.

a. Mostly increasing, sometimes decreasing
b. Mostly decreasing, sometimes increasing
c. Always increasing
d. Always decreasing

____ 10. A right triangle has an angle of 53°. If the opposite side is 6.4 cm long, what is the length of the adjacent side?

a. 4.0 cm
b. 8.5 cm
c. 4.8 cm
d. 8.0 cm

____ 11. Which side of a right triangle will be the longest if tan A is equal to 2?

a. hypotenuse
b. opposite side
c. corresponding side
d. adjacent side

____ 12. What is $\tan^{-1}(1.03)$?

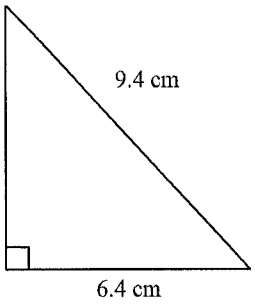
a. 40.25°
b. 31.20°
c. 59.52°
d. 45.85°

____ 13. The hypotenuse of a right triangle is 20.8 cm and one leg is 4.2 cm long. What is the angle adjacent to the 4.2 cm side?

a. 11.65°
b. 90.65°
c. 78.35°
d. 11.42°

Short Answer

1. Solve for the unknown side length.



2. A right triangle with a hypotenuse of 25 m must have legs that are at least 3 m in length. What is the maximum length that either of the legs can be?

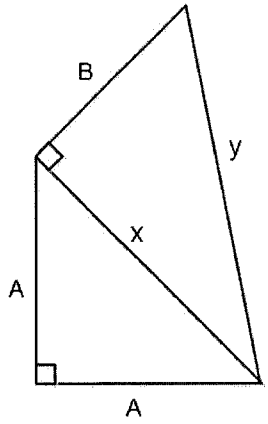
3. A worker uses a board to create a temporary ramp for his wheelbarrow. If the board covers a horizontal distance of 107 cm and has an angle of elevation of 21.9°, how long is the board, in metres?

4. A mountain is 1300 m tall and its peak is 1774 m up the side of the hill. At what angle does the mountain rise?

Problem

1. The diagram below has the following dimensions:
   A = 5 cm
   B = 4 cm

   Find the length of y.



2. If a is 70 mm, find the values of x and y to 1 decimal place.