

Measurement Lesson 1 & 2 2020

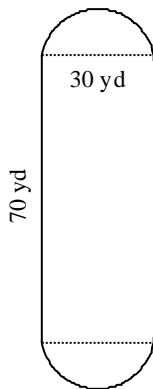
Multiple Choice

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

- ___ 1. Convert 27 yd. to feet.
a. 324 ft. b. 81 ft. c. 2.25 ft. d. 9 ft.
- ___ 2. Convert 9 yd. to inches.
a. 27 in. b. 324 in. c. 45 in. d. 108 in.
- ___ 3. Convert 114 in. to yards, feet, and inches.
a. 6 yd. 0 ft. 3 in. c. 1 yd. 1 ft. 18 in.
b. 3 yd. 0 ft. 6 in. d. 4 yd. 0 ft. 18 in.
- ___ 4. Mike ran 1 mi. in 4 min. On average, how far did he run every 15 s? Give your answer in yards and feet.
a. 110 yd. 0 ft. c. 330 yd. 0 ft.
b. 11 yd. 0 ft. d. 440 yd. 0 ft.
- ___ 5. An indoor lacrosse goal is 4 ft. high. What is this measurement to the nearest tenth of a metre?
a. 1.3 m b. 1.2 m c. 13.3 m d. 12.0 m
- ___ 6. The Skeena River is the second longest river entirely in B.C. It is approximately 354 mi. long. What is this length to the nearest kilometre?
a. 566 km b. 212 km c. 590 km d. 221 km
- ___ 7. Quentin is 5 ft. 1 in. tall. What is his height to the nearest centimetre?
a. 148 cm b. 163 cm c. 153 cm d. 151 cm
- ___ 8. The bobsled track at the Canada Olympic Park in Calgary is 1475 m long. What is this length to the nearest yard?
a. 1613 yd. b. 1659 yd. c. 1328 yd. d. 1362 yd.
- ___ 9. How much wood do you need to form a triangular garden frame if one side of the frame has a length of 8 ft, and the other two sides are 3 feet longer than the first side?
a. 27 ft c. 24 ft
b. 30 ft d. 29 ft
- ___ 10. Convert 3.4 miles into feet.
a. 215 424 feet c. 5984 feet
b. 17 952 feet d. 1995 feet
- ___ 11. A carpenter measures the perimeter of a room to be $56\frac{9}{16}$ ". He needs to buy baseboard to finish the room but the store only sells it by the full metre. How many metres of baseboard will he need to buy?
a. 1730 m c. 18 m
b. 173 m d. 2 m

Short Answer

12. You want to build a fence around your front yard. The yard measures 95 yards long and 55 yards wide. Your house, which is 20 yards wide, runs along the width edge of the fence. You will not need any fencing along the width of the house. How much fencing do you need?
13. Find the distance Lori runs if she completes 8 laps of this track.



14. A local craft store sells ribbon for \$1.48/m. The pattern for Marnie's Halloween costume requires 8 feet of ribbon. How much will it cost Marnie to buy the ribbon?

Problem

15. A nautical mile is approximately 6080 ft. Convert 5 nautical miles to the nearest tenth of a kilometre.
16. In track and field, the 440-yd. race was replaced with the 400-m race when Canada changed from the imperial system to the SI system. Which race is longer and by how much? Use the exact conversion: 1 yd. = 91.44 cm
17. Your kitchen measures 4 m by 3 m. You would like to install tiles that are 8" by 8".
 - a) Calculate the length and width of the tiles in centimetres.
 - b) Calculate the area of each tile in cm^2 .
 - c) Find how many tiles you need to cover the kitchen floor.
 - d) If the tiles come in packages of 26 that cost \$23.59 each, how much will it cost to tile the floor?

Measurement Quiz #1 2020

Answer Section

MULTIPLE CHOICE

1. ANS: B
2. ANS: B
3. ANS: B
4. ANS: A
5. ANS: B
6. ANS: A
7. ANS: C
8. ANS: A
9. ANS: B
10. ANS: B
11. ANS: C

SHORT ANSWER

12. ANS:

Calculate the perimeter of the yard.

$$2 \times (95 + 55) = 300$$

The perimeter is 300 yards.

You must subtract the length of the house to find how much fencing you need.

$$300 - 20 = 280$$

You will need 280 yards of fencing.

13. ANS:

Calculate the perimeter of the track.

$$P = 2(\text{side}) + \pi d$$

$$P = 2(70) + \pi(30)$$

$$P \approx 234 \text{ yd}$$

Multiply the perimeter by the number of laps.

$$8 \text{ laps} \times 234 = 1872 \text{ yd}$$

Lori runs 1872 yd.

14. ANS:

Calculate how much ribbon Marnie needs in metres.

$$1 \text{ ft} = 0.3048 \text{ m}$$

$$8 \text{ ft} \times 0.3048 \text{ m/ft} = 2.4384 \text{ m}$$

Marnie needs 2.4384 m of ribbon.

Each metre costs \$1.48.

$$\$1.48/\text{m} \times 2.4384 \text{ m} = \$3.61$$

It will cost Marnie \$3.61 to buy the ribbon.

PROBLEM

15. ANS:

Convert 5 nautical miles to feet.

$$1 \text{ nautical mile} \doteq 6080 \text{ ft.}$$

$$\text{So, } 5 \text{ nautical miles} \doteq 5(6080 \text{ ft.})$$

$$5 \text{ nautical miles} \doteq 30\,400 \text{ ft.}$$

Convert 30 400 ft. to metres.

$$1 \text{ ft.} \doteq 0.3 \text{ m}$$

$$\text{So, } 30\,400 \text{ ft.} \doteq 30\,400(0.3 \text{ m})$$

$$30\,400 \text{ ft.} \doteq 9120 \text{ m}$$

Convert 9120 m to kilometres.

$$1 \text{ km} = 1000 \text{ m}$$

$$\text{So, } 9120 \text{ m} = \left(\frac{9120}{1000} \right) \text{ km}$$

$$= 9.12 \text{ km}$$

So, 5 nautical miles is approximately 9.1 km.

16. ANS:

Convert 440 yd. to centimetres.

$$1 \text{ yd.} = 91.44 \text{ cm}$$

$$\text{So, } 440 \text{ yd.} = 440(91.44 \text{ cm})$$

$$440 \text{ yd.} = 40\,233.6 \text{ cm}$$

Convert 40 233.6 cm to metres.

$$1 \text{ m} = 100 \text{ cm}$$

$$\text{So, } 40\,233.6 \text{ cm} = \frac{40\,233.6}{100} \text{ m}$$

$$= 402.336 \text{ m}$$

Since $402.336 \text{ m} > 400 \text{ m}$, the 440-yd. race is longer.

$$402.336 \text{ m} - 400 \text{ m} = 2.336 \text{ m}$$

The 440-yd. race is longer than the 400-m race by approximately 2.3 m.

17. ANS:

a) The tiles are square, so you only need to convert the length of one side.

$$1 \text{ in} = 2.54 \text{ cm}$$

$$8 \text{ in} \leftrightarrow 2.54 \text{ cm/in} = 20.32 \text{ cm}$$

The tiles are 20.32 cm by 20.32 cm.

b) Use the formula for the area of a square.

$$A = (\text{side length})^2$$

$$A = 20.32^2$$

$$A \approx 413 \text{ cm}^2$$

The tiles are 413 cm².

c) Convert the dimensions of the kitchen to centimetres.

$$\text{Length: } 100 \leftrightarrow 4 = 400 \text{ cm}$$

$$\text{Width: } 100 \leftrightarrow 3 = 300 \text{ cm}$$

Calculate the area of the kitchen.

$$A = l \times w$$

$$A = 400 \times 300$$

$$A = 120\,000 \text{ cm}^2$$

The area of the kitchen is 120 000 cm².

Divide the area of the kitchen by the area of one tile.

$$120\,000 \div 413 \approx 291, \text{ rounded up}$$

You will need about 291 tiles.

d) Divide the number tiles needed for the kitchen by the number of tiles per package to find out how many packages you need to buy.

$$291 \div 26 \approx 12 \text{ packages}$$

Multiply by the cost per package.

$$12 \leftrightarrow \$23.59 = \$283.08$$

It will cost \$283.08 to tile the kitchen floor.