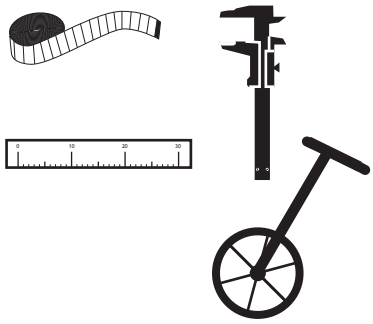
Math 10C: Measurement
PRACTICE EXAM

1. The distance from your house to a friend's house is best measured using:



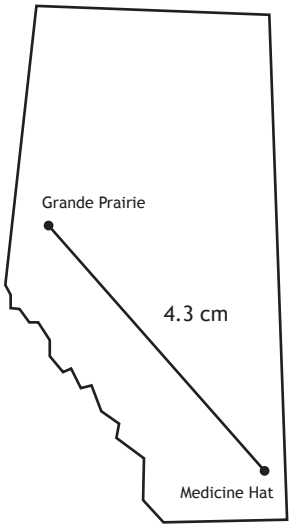
A. a tape measure.

B. a 30 cm ruler.

C. Vernier calipers.

D. a trundle wheel.

2. The actual distance between Grande Prairie and Medicine Hat is:



Map Scale: 1:18,300,000

A. 430 km

B. 508 km

C. 787 km

D. 896 km

3. The diameter of a trundle wheel is 45 cm. If a person walks for 0.7 km, how many times has the wheel rotated?

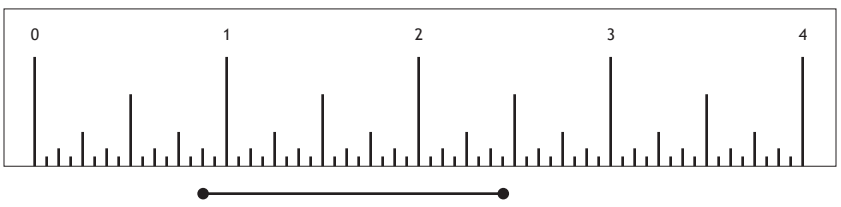
A. 495

B. 644

C. 781

D. 905

4. The length of the line segment is:



A. 1.2″

B. $1\frac{5}{16}$″

C. 1.5″

D. $1\frac{9}{16}$″

5. 4 yd. is equivalent to:

A. 144″

B. 16 ft.

C. 0.05 mi.

D. 320 cm

6. 12000 ft. is equivalent to:

A. 120000″

B. 368000 cm

C. 4200 yd.

D. 2.27 mi.

7. 3 mi. is equivalent to:

A. 4600 m

B. 5400 yd.

C. 4.83 km

D. 15600 ft.

8. 12 m is equivalent to:

A. 0.12 km

B. 11 yd.

C. 19308 mi.

D. 472.44″

9. 400 m is equivalent to:

A. 0.25 mi.

B. 0.04 km

C. 400 yd

D. 4000″

10. Five students measure their height using different units. Andrew is 176 cm, Brittney is 5’4”, Calvin is 1.8 yards, Don is 54 inches, and Elisha is 1.6 metres. From shortest to tallest, the order of the students is:

A. Don, Andrew, Brittney, Calvin, Elisha

B. Don, Elisha, Brittney, Calvin, Andrew

C. Brittney, Elisha, Calvin, Don, Andrew

D. Calvin, Andrew, Don, Brittney, Elisha

11. A homeowner is laying sod in her lawn. The lawn is a rectangle with dimensions of 28' × 18'. If one piece of sod is a rectangle with dimensions of 60 cm × 40 cm, approximately how many pieces of sod should the homeowner order?

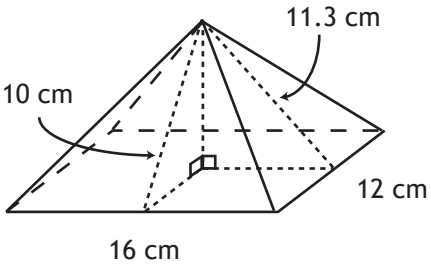
A. 195

B. 245

C. 295

D. 345

12. The surface area of the rectangular pyramid is:



A. 478 cm^2

B. 483 cm^2

C. 488 cm^2

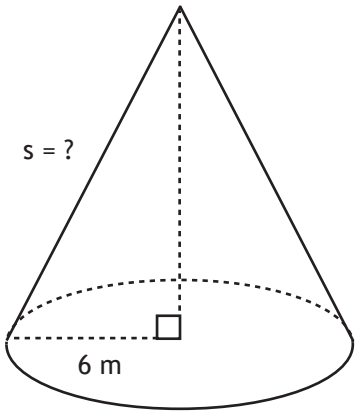
D. 493 cm^2

13. The slant height of the cone is:

Cone Data

SA = 320.44 m^2

V = 347.57 m^3



A. 11 m

B. 12 m

C. 13 m

D. 14 m

14. A square pyramid has a base measuring 5 ft. by 5 ft. The height of the pyramid, from the centre of the base to the apex is 7 ft. Calculate the surface area of the pyramid.

A. 99 ft^2

B. 104 ft^2

C. 109 ft^2

D. 114 ft^2

15. A cylindrical water tank with an open top has a volume of 5702 m^3 and a radius of 11 m. Calculate the height of the tank.

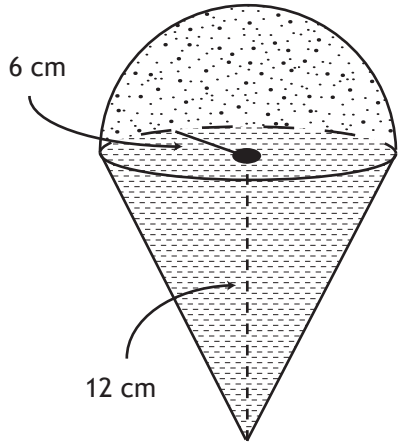
A. 14 m

B. 15 m

C. 16 m

D. 17 m

16. The volume of the 3-D object shown is:



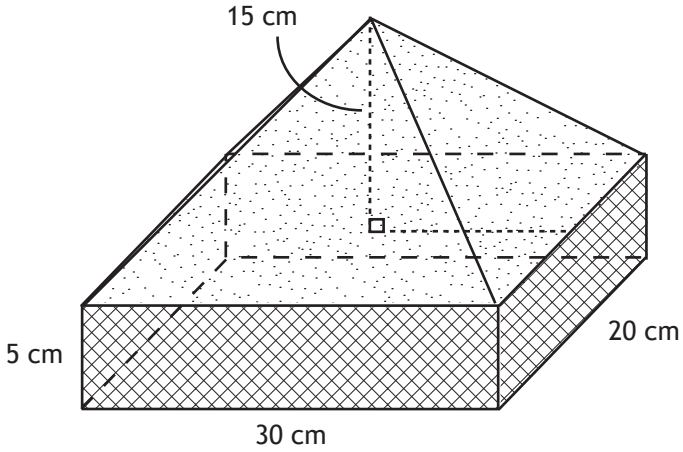
A. 905 cm^3

B. 910 cm^3

C. 915 cm^3

D. 920 cm^3

17. The surface area of the 3-D object shown is:



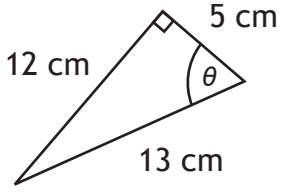
A. 2060 cm^2

B. 2065 cm^2

C. 2070 cm^2

D. 2075 cm^2

18. The cosine ratio for the angle θ is:



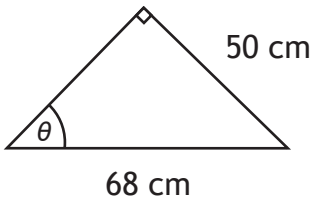
A. 0.2000

B. 0.3846

C. 0.9231

D. 2.4000

19. The angle θ in the triangle shown is:



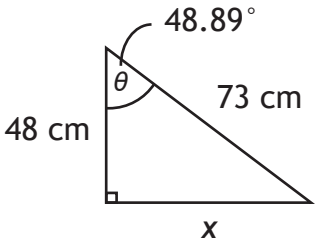
A. 42°

B. 47°

C. 52°

D. 57°

20. The value of x is:



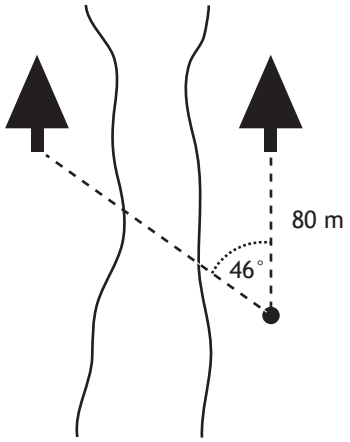
A. 40 cm

B. 45 cm

C. 50 cm

D. 55 cm

21. The sketch on the right was drawn by a surveyor who is trying to determine the distance between two trees across a river. Using the information in the sketch, calculate the distance between the trees.



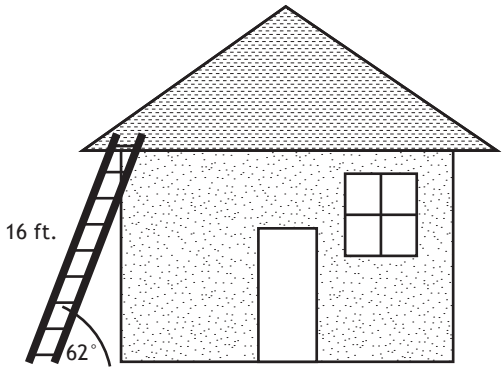
A. 83 m

B. 88 m

C. 93 m

D. 98 m

22. A 16 ft. ladder is leaning against the roof of a house. The angle between the ladder and the ground is 62°. How high above the ground is the base of the roof?



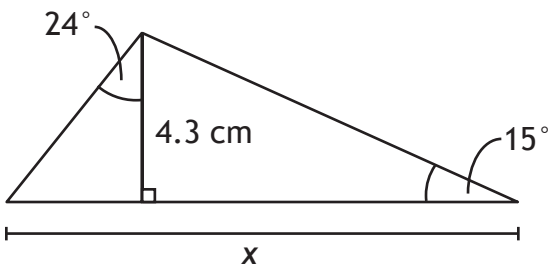
A. 8 ft.

B. 10 ft.

C. 12 ft.

D. 14 ft.

23. The value of x is:



A. 17.9 cm

B. 18.4 cm

C. 18.9 cm

D. 19.4 cm

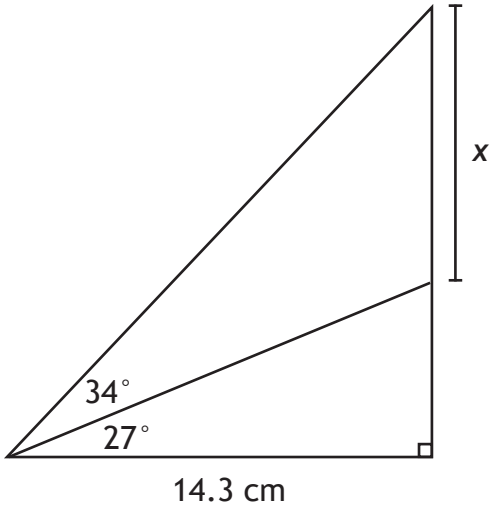
24. The value of x is:

A. 17.5 cm

B. 18.0 cm

C. 18.5 cm

D. 19.0 cm



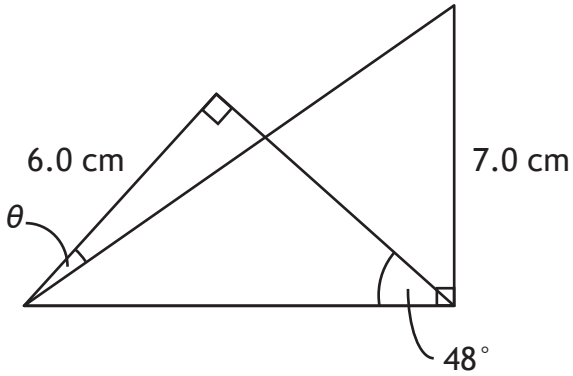
25. The value of θ is:

A. 1.2°

B. 2.8°

C. 3.5°

D. 4.4°



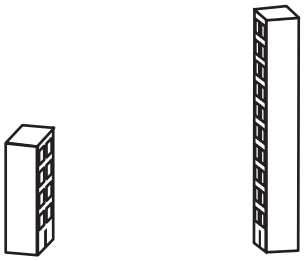
26. Janis lives on the 4th floor of her apartment building. From her window, she has to tilt her head 52° upwards to see the top of the neighbouring building. She has to look down 35° to see the base of the neighbouring building. The distance between the buildings is 80 m. The height of the neighbouring building is:

A. 148.0 m

B. 153.5 m

C. 158.4 m

D. 163.9 m



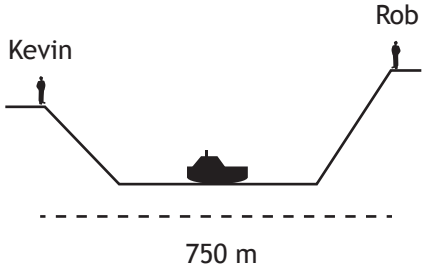
27. Kevin and Rob are standing on opposite sides of Edmonton's River Valley. In order to see a boat on the river, Kevin has to look down 32°, and Rob has to look down 38°. The width of the valley is 750 m, and the boat is exactly halfway between Kevin and Rob. How much higher is Rob than Kevin?

A. 54 m

B. 59 m

C. 64 m

D. 69 m



Measurement - ANSWER KEY

Video solutions are in italics.

1. **D** *Metric and Imperial, Introduction (b)*
2. **C** *Metric and Imperial, Example 1c*
3. **A** *Metric and Imperial, Example 5b*
4. **D** *Metric and Imperial, Example 6e*
5. **A** *Metric and Imperial, Example 8e*
6. **D** *Metric and Imperial, Example 9f*
7. **C** *Metric and Imperial, Example 10b*
8. **D** *Metric and Imperial, Example 11c*
9. **A** *Metric and Imperial, Example 11f*
10. **B** *Metric and Imperial, Example 13a*
11. **A** *Metric and Imperial, Example 14a*
12. **C** *Surface Area and Volume, Intro (d)*
13. **A** *Surface Area and Volume, Example 1b*
14. **A** *Surface Area and Volume, Example 2a*
15. **B** *Surface Area and Volume, Example 2b*
16. **A** *Surface Area and Volume, Example 3b*
17. **B** *Surface Area and Volume, Example 6a*
18. **B** *Trigonometry I, Example 1d*
19. **B** *Trigonometry I, Example 2d*
20. **D** *Trigonometry I, Example 3b*
21. **A** *Trigonometry I, Example 5a*
22. **D** *Trigonometry I, Example 5b*
23. **A** *Trigonometry II, Example 1a*
24. **C** *Trigonometry II, Example 2c*
25. **A** *Trigonometry II, Example 3b*
26. **C** *Trigonometry II, Example 4a*
27. **B** *Trigonometry II, Example 6*

Math 10C Practice Exam: Tips for Students

• Every question in the practice exam has already been covered in the Math 10C workbook. It is recommended that students refrain from looking at the practice exam until they have completed their studies for the unit.

• Do not guess on a practice exam. The practice exam is a self-diagnostic tool that can be used to identify knowledge gaps. Leave the answer blank and study the solution later.