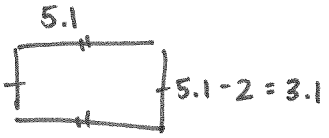
Name: key Class: _____ Date: _____ ID: A

Ch 3 Practice Test

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

C 1. What is the perimeter of a rectangular room that has a length of 5.1 m and a width that is 2 m less than the length?

a. 24.4 m
b. 15.4 m
c. 16.4 m
d. 20.4 m



$P = 5.1 + 5.1 + 3.1 + 3.1 = 16.4\text{m}$

b 2. How many yards is 9 mi?

1 mile = 1760 yds

a. 14 500 yards
b. 15 840 yards
c. 16 040 yards
d. 12 672 yards

$9\text{mile} \times \frac{1760\text{yd}}{1\text{mile}} = 15840\text{yd}$

b 3. What is the circumference of a circular hot tub if its radius is 1.35 m?

a. 5.72 m
b. 8.48 m
c. 12.03 m
d. 4.24 m

$C = 2\pi r$
$= 2\pi(1.35)$
$= 8.48\text{m}$

C 4. Which of the following is a good estimate of an inch?

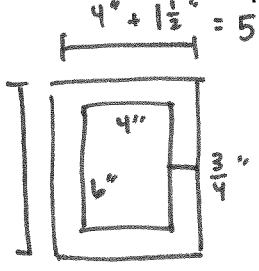
a. The length from your elbow to your wrist.
b. The span of your hand.
c. The width of your thumb.
d. The width of your pinky finger.

a 5. Which of the following are the most appropriate SI units to use for measuring a person's height?

a. centimetres
b. millimetres
c. feet
d. inches

a 6. A 4" by 6" photograph is in a frame $\frac{3}{4}$" wide. What is the outer perimeter of the framed photograph?

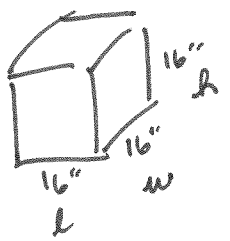
a. 26"
b. 13"
c. 22"
d. 41"



$7 + 7 + 5 + 5 = 24$
$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = 2$
Total: $24 + 2 = 26$"

b 7. What is the surface area of a cube that measures 16" on each side?

a. 2048 in²
b. 1536 in²
c. 1024 in²
d. 256 in²



$A_{\square} = lw$
$= 16 \times 16$
$= 256\text{ in}^2$

$256\text{in}^2 \times 6 = 1536\text{in}^2$
faces

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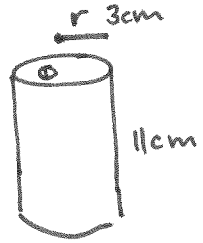
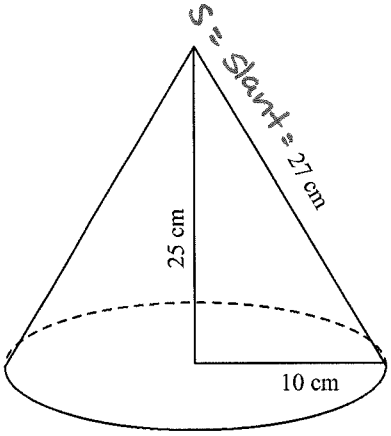
c 8. An aluminum pop can measures 11 cm high and has a radius of 3 cm. What is the surface area of the ~~exposed~~ can, to 2 decimal places?

a. 28.27 cm
b. 367.57 cm
c. 263.89 cm
d. 226.19 cm



$SA = 2\pi r^2 + 2\pi rh$
$= 2\pi(3)(3) + 2\pi(3)(11)$
$= 56.55 + 207.35$
$= 263.90$

c 9. Find the surface area of this cone. Include the surface area of the base of the cone. Round to 1 decimal place.

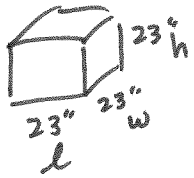


$SA = \pi r^2 + \pi rs$
$= \pi(10)^2 + \pi(10)(27)$
$= 314.2 + 848.2$
$= 1162.4 \text{ cm}^2$

a. 21519.9 cm^2
b. 879.6 cm^2
c. 1162.4 cm^2
d. 1099.6 cm^2

a 10. What is the volume of a cube that measures 23" on each side?

a. 12 167 cu in
b. 4232 cu in
c. 529 cu in
d. 2116 cu in



$V = lwh$
$= 23 \times 23 \times 23$
$= 12167 \text{ in}^3$

b 11. How many mL are in 1 cup?

250mL = 1 cup

a. 100 mL
b. 250 mL
c. 300 mL
d. 500 mL

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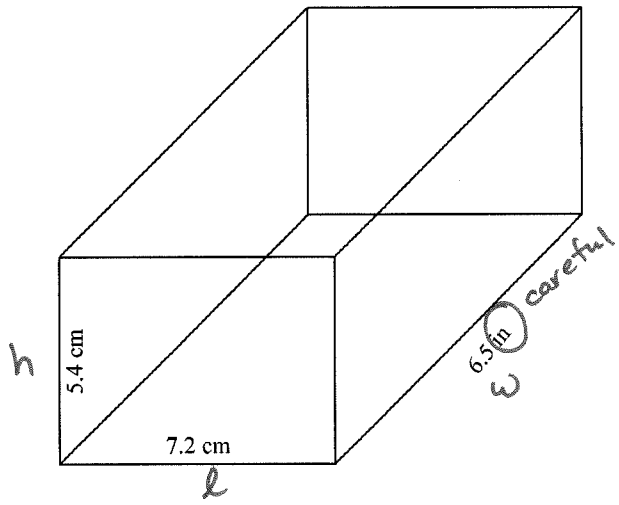
d 12. Find the volume of the rectangular prism below, in cm^3.

$6.5\,in \times \frac{2.54\,cm}{1\,in} = 16.51\,cm$



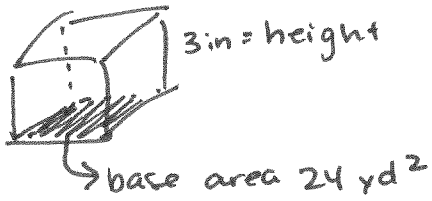
$V = \ell w h$
$= (7.2)(16.51)(5.4)$
$= 641.5\,cm^3$

a. $708.5\,cm^3$
b. $252.7\,cm^3$
c. $493.6\,cm^3$
d. $641.5\,cm^3$

b 13. A garden has an area (base) of 24 yd^2. It is covered in topsoil that is 3 in deep. What is the volume of topsoil used, in yd^3?

a. $72\,yd^3$
b. $2\,yd^3$
c. $6\,yd^3$
d. $24\,yd^3$

$3\,in \times \frac{1\,yd}{36} = 0.083$



$V = A_{base} \times height$
$= 24 \times 0.083$
$= 2\,yd^3$

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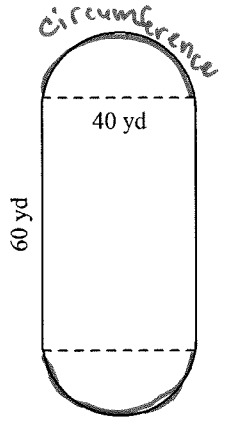
Short Answer

1. Find the distance Lori runs if she completes 9 laps of this track.



$C = \pi d$
$= \pi(40)$
$= 125.7 \text{ yd}$

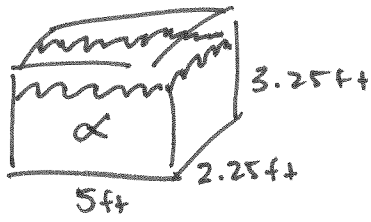
$P = 125.7 + 60 + 60$
$= 246 \text{ yd / lap}$

$246 \text{ yd} \times 9 \text{ laps} = \boxed{2214 \text{ yds}}$ (total)

2. A fish tank measures 5 ft by 39 in by 27 in. For the best health of the fish, the tank should only be 75% full. What volume of water should the tank hold, in cubic feet?

$39 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}} = 3.25 \text{ ft}$

$27 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}} = 2.25 \text{ ft}$



$V = lwh$
$= (3.25)(2.25)(5)$
$= 36.56 \text{ ft}^3$

$36.56 \text{ ft}^3 \times 0.75 =$

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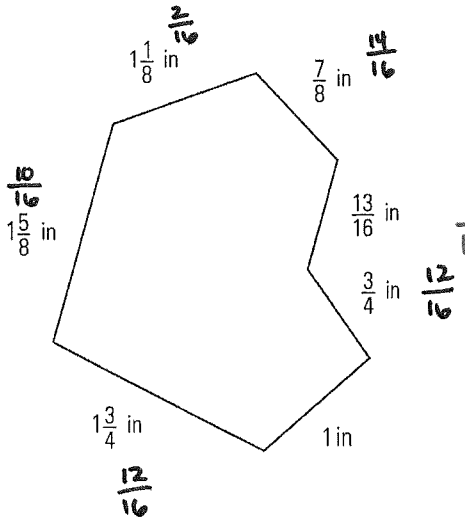
Problem

1. 3. What is the perimeter of this figure?



Whole #
1 + 1 + 1 + 1 = 4

Fractions
$\frac{13}{16} + \frac{2}{16} + \frac{14}{16} + \frac{12}{16} + \frac{12}{16} + \frac{10}{16} = \frac{63}{16} = 3\frac{15}{16}$

Total:
$4 + 3\frac{15}{16} = 7\frac{15}{16}$

2. Allanah can kick a rugby ball 72 feet. Cory is standing 27 metres away. Will the ball reach Cory?

$72\,ft \times \frac{30.48\,cm}{1\,ft} \times \frac{1\,m}{100\,cm} = 21.9\,m$

calculator → 72 × 30.48 ÷ 1 × 1 ÷ 100 = 21.9 m

No, the ball will not reach Cory

3. Sandro enjoys modelling famous buildings. He has decided to make a scale model of the square-based Pyramid of Khafre, one of the ancient Egyptian Pyramids of Giza.

Sandro knows the pyramid had a base length of 706 ft and a slant length of 589 ft.

a) What is the surface area of the pyramid? Don't include the bottom of the pyramid.

$A_{triangle\ (per\ \Delta)} = \frac{1}{2}bs$

or

$SA = 2bs + b^2$
↑
do not include

$= 2(706)(589)$

$= 831668\,ft^2$

4. Paula owns an American manufactured car that has a fuel capacity of 13 gallons. She wishes to fill up her tank before leaving on a long trip. Her tank is currently $\frac{5}{8}$ full. Gas costs \$1.18/L. What will it cost her to fill up?

(US) $13 \text{ gallons} \times \frac{1\text{L}}{0.26(\text{US})} = 50\text{L}$

$\frac{5}{8} = 0.625 = 62.5\%$

62.5% of 50 =

$0.625 \times 50 = 31.25\text{L}$

$31.25\text{L} \times \$1.18/\text{L} = \$36.88$