

# HOMEWORK...Unit Test is TOMORROW!!!

Sample Chapter Test

Review - Chp. 4.pdf

Review - Chapter 4 Sample Test.pdf

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## REVIEW...

- Imperial versus metric systems (units, symbols, conversions)
- Converting measurements...  
(metric --> imperial; imperial --> metric, imperial --> imperial)
- Applications of conversions [word problems...draw a picture, identify key details]
- Converting squared and cubed measurements...  
RULE: Square the converter / Cube the converter
- Surface Area [prism, cylinder, pyramid, cone, sphere]
- Surface Area of Composite Objects
- Converting Volumes and Capacities (units, symbols, conversions)

# SOLUTIONS...

Review Worksheet - Converting Imp\_Metric.docx

## Converting English and Metric

- 1 ) 8.27 inches = 21 centimeters
- 2 ) 10 mph = 6.21 kmph
- 3 ) 9.01 miles = 14.5 kilometers
- 4 ) 13 gallons = 49.21 liters
- 5 ) 3.17 quarts = 3 liters
- 6 ) 9 cups = 2.13 liters
- 7 ) 9.5 teaspoons = 46.82 milliliters
- 8 ) 19.5 square inches = 125.81 square centimeters
- 9 ) 8 cups = 1.89 liters
- 10 ) 0.21 cubic inches = 3.5 milliliters
- 11 ) 0.46 cubic inches = 7.5 milliliters
- 12 ) 10.5 gallons = 39.75 liters
- 13 ) 16.4 feet = 5 meters
- 14 ) 70.63 cubic feet = 2 cubic meters
- 15 ) 1.22 teaspoons = 6 milliliters
- 16 ) 15.7 cubic yards = 12 cubic meters
- 17 ) 0.16 square inches = 1 square centimeters
- 18 ) 19 yards = 17.37 meters
- 19 ) 20 fluid ounces = 591.47 milliliters
- 20 ) 15 cubic feet = 0.42 cubic meters

Geometry, Measurement & Finance 10 - MIXED Conversions

Math-Aids.Com

$$\textcircled{14} \quad 2 \cancel{\text{m}^3} \times \frac{3.2808^3 \text{ft}^3}{1 \cancel{\text{m}^3}} = 70.6 \text{ft}^3$$

$$\textcircled{17} \quad 1 \text{cm}^2 \times \frac{1 \text{in}^2}{2.54 \cdot \text{cm}^2} = 0.2$$



ometry, Measurement and Finance 10  
Quiz - Systems of Measurement & Converting

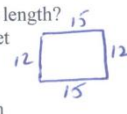
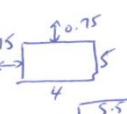

Na

Key

Sept. 2013

Multiple Choice (10 Marks)

CIRCLE the letter that corresponds to the correct solution.

- 28
- 16.8 - pass  
22.4 - 3rd  
25.2 - 2nd
- What is the perimeter of a rectangular room with a length of 15 feet and a width that is 3 feet less than the length? 
    - [A] 27 feet
    - [B] 33 feet
    - [C] 54 feet
    - [D] 66 feet
  - How many centimeters is 6'2"?
    - [A] 29 cm
    - [B] 183 cm
    - [C] 188 cm
    - [D] 74 cm
  - How many miles is 8800 yards?
    - [A] 5 miles
    - [B] 8.8 miles
    - [C] 10 miles
    - [D] none of these
  - Convert 250 inches into feet and inches.
    - [A] 20 feet 6 inches
    - [B] 20 feet 8 inches
    - [C] 20 feet 10 inches
    - [D] 21 feet
  - Convert: 66 feet = \_\_\_\_\_ meters
    - [A] 5.5 m
    - [B] 20.1 m
    - [C] 26 m
    - [D] 216.5 m
  - A 4" by 5" photograph is in a frame  $\frac{3}{4}$ " wide. What is the outer perimeter of the framed photograph? 
    - [A] 18"
    - [B] 20"
    - [C] 21"
    - [D] 24"
  - The driving distance from Miramichi to Moncton is 152 km. What is this distance in miles (to the nearest mile)? 
    - [A] 245 miles
    - [B] 146 miles
    - [C] 101 miles
    - [D] 94 miles
  - You decide to visit a fishing buddy in Portland, Maine. He tells you that he lives 435 miles away. Your odometer tells you that you have already travelled 134 km. How much further do you have to go in kilometers?
    - [A] 566 km
    - [B] 484 km
    - [C] 352 km
    - [D] 136 km
  - Convert the following:
    - [A] 21.9 m<sup>3</sup>
    - [B] 18.3 m<sup>3</sup>
    - [C] 26.2 m<sup>3</sup>
    - [D] 15.3 m<sup>3</sup>
  - Convert the following:
    - [A] 351.6 m<sup>2</sup>
    - [B] 183.4 m<sup>2</sup>
    - [C] 21.5 m<sup>2</sup>
    - [D] 3.5 m<sup>2</sup>

Open Response (18 Marks)

Show ALL your work in the space provided. Put a box around your final solution and be sure to include units.

1. Make the following unit conversions... [12]

- 2500 yards = 2.3 km  
 $2500 \text{ yds} \times \frac{1 \text{ mi}}{1760 \text{ yds}} \times \frac{1.6093 \text{ km}}{1 \text{ mi}}$
- 5 m<sup>2</sup> = 53.8 ft<sup>2</sup>  
 $5 \text{ m}^2 \times \frac{3.2808 \text{ ft}^2}{1 \text{ m}^2}$
- 180 cm = 5 ft 11 in  
 $180 \text{ cm} \times \frac{1 \text{ in}}{2.54 \text{ cm}} \times \frac{1 \text{ ft}}{12 \text{ in}} = 5.9 \text{ ft}$   
 $0.9 \times 12 = 11 \text{ in}$
- 2.8 mi = 4.5 km  
 $2.8 \text{ mi} \times \frac{1.6093 \text{ km}}{1 \text{ mi}}$
- 1 000 000 mm = 1093.6 yards  
 $1000000 \text{ mm} \times \frac{1 \text{ m}}{1000 \text{ mm}} \times \frac{1.0936 \text{ yd}}{1 \text{ m}}$

2. A room measures 15'6" by 12'3". Carpet costs \$28.95/m<sup>2</sup>. If you must purchase 5% extra carpet to account for mistakes and waste, what will it cost to carpet the room? [6]

12

Area = 186 x 147 = 27342 in<sup>2</sup> ①

Cost = 19 x 28.95 = \$550.05 ①

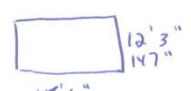
15'6" = 186"  
12'3" = 147"

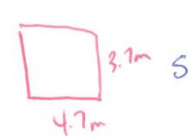
27342 in<sup>2</sup> x  $\frac{2.54 \text{ cm}^2}{1 \text{ in}^2} \times \frac{1 \text{ m}^2}{100 \text{ cm}^2}$

OR Convert = 17.6 ①

5% extra ⇒ 17.6 x 1.05 = 18.5 → Need 19 m<sup>2</sup> OR

Cost = 18.5 x 28.95 = \$535.58





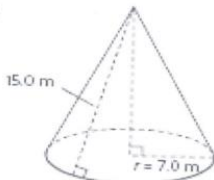
Geometry, Measurement and Finance 10  
Quiz - Surface Area

Name: Key

Sept. 2015

1. Find the SURFACE AREA for each one of the following...

a)



$$SA_{\text{cone}} = \pi r^2 + \pi r s$$

$$= \pi (7)^2 + \pi (7)(15)$$

$$= 483.8 \text{ m}^2$$

Surface Area = 483.8 m<sup>2</sup>

b)



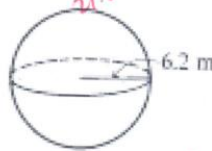
$$SA_{\text{cylinder}} = 2\pi r^2 + 2\pi r h$$

$$= 2\pi (6.3)^2 + 2\pi (6.3)(15.8)$$

$$= 874.8 \text{ cm}^2$$

Surface Area = 874.8 cm<sup>2</sup>

c)



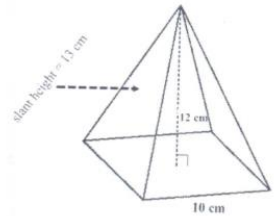
$$SA_{\text{sphere}} = 4\pi r^2$$

$$= 4\pi (6.2)^2$$

$$= 483.1 \text{ cm}^2$$

Surface Area = 483.1 cm<sup>2</sup>

d)



$$SA_{\text{pyramid}} = s^2 + 4\left(\frac{b}{2}\right)(h)$$

$$= 10^2 + 4\left(\frac{10}{2}\right)(13)$$

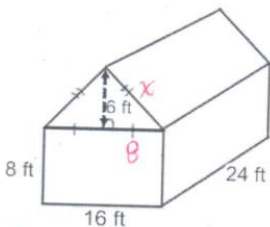
$$= 100 + 260$$

$$= 360$$

Surface Area = 360 cm<sup>2</sup>

2. Find the TOTAL SURFACE AREA for each of the following figures...

a)



$$x^2 = 6^2 + 8^2$$

$$\sqrt{x^2} = \sqrt{100}$$

$$x = 10$$

$$SA_{\text{prism}} = 16(24) + 2(8)(16) + 2(8)(24)$$

$$= 384 + 256 + 384$$

$$= 1024 \text{ ft}^2$$

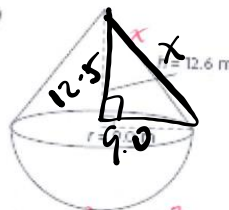
$$SA_{\text{prism}} = \frac{2(16)(8)}{2} + 2(10)(24)$$

$$= 96 + 480$$

$$= 576 \text{ ft}^2$$

Surface Area = 1600 ft<sup>2</sup>

b)



$$x^2 = 9^2 + 12.6^2$$

$$\sqrt{x^2} = \sqrt{239.76}$$

$$x = 15.5$$

$$SA_{\text{cone}} = \pi r s$$

$$= \pi (9)(15.5)$$

$$= 437.8 \text{ m}^2$$

$$SA_{\text{hemisphere}} = \frac{4\pi r^2}{2}$$

$$= 2\pi (9)^2$$

$$= 508.9 \text{ m}^2$$

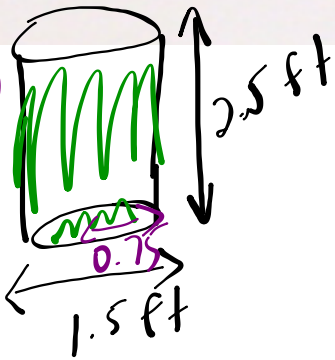
$$SA_{\text{total}} = 437.8 + 508.9$$

$$= 946.7 \text{ m}^2$$

Surface Area = 946.7 m<sup>2</sup>

10. Two cylindrical flower pots need to be painted. The flower pots are  $1\frac{1}{2}$  ft in diameter and  $2\frac{1}{2}$  ft high. A 1 L can of paint covers 100 ft<sup>2</sup>. Will one can be enough to paint the two flower pots with two coats of paint?

5 flower pots



54.19 ft<sup>2</sup>

$$SA_{\text{cylinder}} = \pi r^2 + 2\pi rh$$

$$= \pi(0.75)^2 + 2\pi(0.75)(2.5)$$

$$= 13.5 \text{ ft}^2$$

Area of one →

Two →

Two coats →

$\pi(.75^2) + 2\pi(.75)(2.5$	
Ans*2	13.54811832
Ans*2	27.09623664
Ans*2	54.19247327

## Attachments

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Review - Chapter 4 Sample Test.pdf

Review - Chp. 4.pdf

Review Worksheet - Converting Imp\_Metric.docx