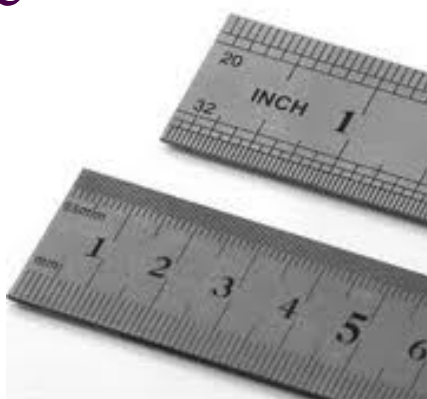


# Converting Measurements



SI ↔ IMPERIAL

Please Add the following:

**IMPORTANT CONVERSIONS...**

SI Length	↔	Imperial Length
1 cm = 10 mm 1 m. = 100 cm 1 km = 1000 m	$1\text{ m} = 1.0936\text{ yd}$ $1\text{ mi.} = 1.6093\text{ km}$ $1\text{ in.} = 2.54\text{ cm}$	1 ft. = 12 in. 1 yd = 3 ft. 1 mi. = 1760 yd
• <b>1m = 3.2808ft</b>		
SI Capacity: 1 L = 1000 mL 1 kL = 1000 L SI Volume: 1 cm <sup>3</sup> = 1 mL		

SI (metric)...	↔	Imperial...
1 g = 1000 mg 1 kg = 1000 g 1 t = 1000 kg	1 kg = 2.2 lbs	1 lb = 16 oz 1 tn = 2000 lb

**TEMPERATURE CONVERSIONS...**

$C = \frac{5}{9}(F - 32)$	$F = \frac{9}{5}C + 32$
---------------------------	-------------------------

**CONVERTING COMMON COOKING UNITS**

Imperial	SI
¼ teaspoon	1.25 mL
½ teaspoon	2.5 mL
1 teaspoon	5 mL
1 tablespoon (3 teaspoons)	15 mL
1 cup	250 mL
1 pint	568.2614 mL
1 quart (2 pt)	1.1365 L
1 gallon (4 qt)	4.5461 L

**CONVERTING US IMPERIAL TO SI UNITS**

US Imperial	SI
1 fl oz	29.5735 mL
1 pt = 16 fl oz	473.176 mL or 0.473 L
1 qt = 2 pt	946.352 mL or 0.946 L
1 gal = 4 qt	3785.4 mL or 3.785 L

Conversion Factor

**Want**  

---

**Have**

Determine the following:

a)  $15 \text{ m} = \underline{\hspace{2cm}} \text{ yd}$

b)  $29 \text{ mi} = \underline{\hspace{2cm}} \text{ km}$

c)  $49 \text{ ft} = \underline{\hspace{2cm}} \text{ m}$



$$\text{a) } 15 \text{ m} = \underline{16.40} \text{ yd}$$

$$= \cancel{15\text{m}} \times \frac{1.0936 \text{ yd}}{1 \cancel{\text{m}}}$$

$$\boxed{= 16.40}$$

$$b) 29 \text{ mi} = \underline{46.67} \text{ km}$$

$$= \cancel{29 \text{ mi}} \times \frac{1.6093 \text{ km}}{1 \cancel{\text{ mi}}}$$

$$= 46.67 \text{ km}$$

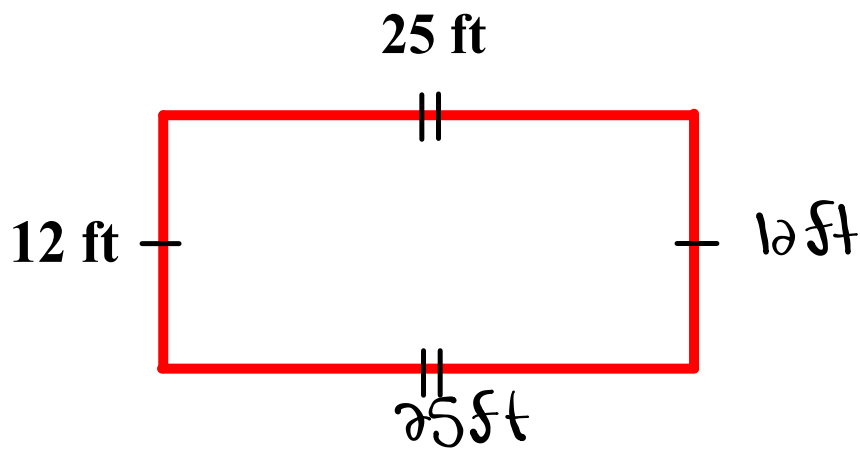
$$c) 49 \text{ ft} = \underline{14.94} \text{ m}$$

$$= 49 \cancel{\text{ft}} \times \frac{1 \text{ m}}{3.2808 \cancel{\text{ft}}}$$

$$= \frac{49 \text{ m}}{3.2808}$$

$$= 14.94 \text{ m}$$

Calculate the perimeter in inches.



① Convert 12 ft to in:      ② Convert 25 ft to in:

$$12 \cancel{\text{ft}} \times \frac{12 \text{ in}}{1 \cancel{\text{ft}}}$$

$$= 144 \text{ in}$$

$$25 \cancel{\text{ft}} \times \frac{12 \text{ in}}{1 \cancel{\text{ft}}}$$

$$= 300 \text{ in}$$

③ Find Perimeter:

$$P = 144 + 300 + 144 + 300$$

$$P = 888 \text{ in}$$

① Find perimeter:

$$P = 12 + 25 + 12 + 25$$

$$P = 74 \text{ ft}$$

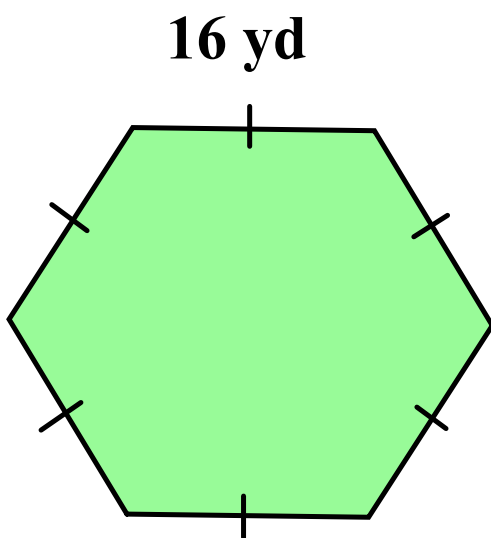
② Convert 74 ft to in:

$$= 74 \cancel{\text{ft}} \times \frac{12 \text{ in}}{1 \cancel{\text{ft}}}$$

$$= 888 \text{ in}$$



Calculate the perimeter in meters.



① Convert 16 yd to m

$$16 \text{ yd} \times \frac{1 \text{ m}}{1.0936 \text{ yd}}$$

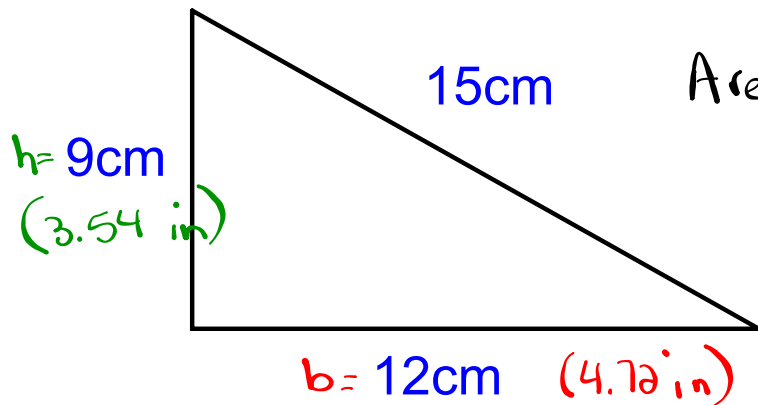
$$= \frac{16 \text{ m}}{1.0936}$$

$$= 14.63 \text{ m}$$

②  $P = 6(14.63)$

$$P = 87.78 \text{ m}$$

Calculate the area inches



$$\text{Area } \Delta = \frac{b \times h}{2}$$

$$\text{Area } \Delta = \frac{1}{2}(b \times h)$$

① Convert 12cm to in:

$$12\text{cm} \times \frac{1 \text{ in}}{2.54\text{cm}}$$

$$= \frac{12 \text{ in}}{2.54}$$

$$= \underline{4.72 \text{ in}}$$

② Convert 9cm to in:

$$9\text{cm} \times \frac{1 \text{ in}}{2.54\text{cm}}$$

$$= \frac{9 \text{ in}}{2.54}$$

$$= \underline{3.54 \text{ in}}$$

③ Find Area:

$$A = \frac{b \times h}{2}$$

$$A = \frac{4.72 \times 3.54}{2}$$

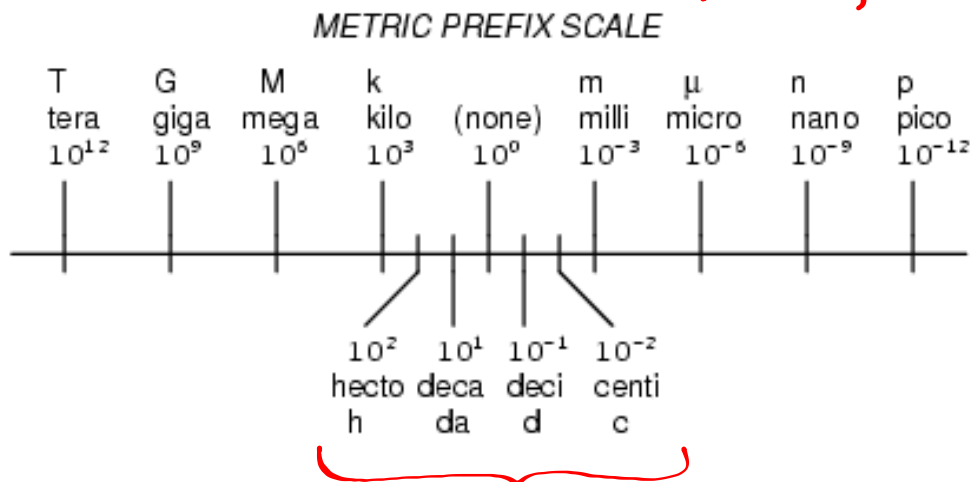
$$A = \frac{16.7088}{2}$$

$$A = 8.35 \text{ in}^2$$

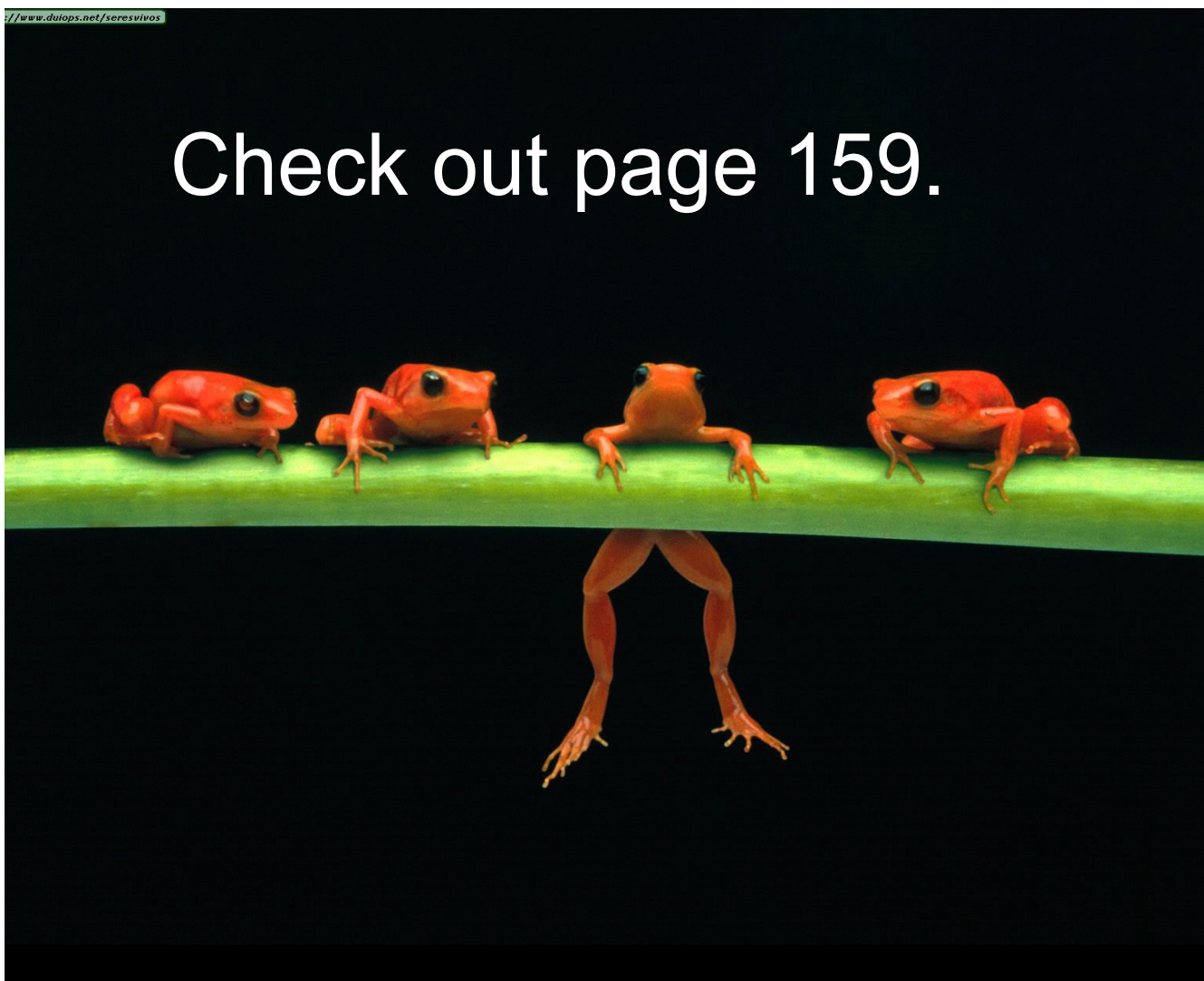
## Homework

### Finish worksheet

kilo, hecto, deca, base, deci, centi, milli  
 k, h, da d, c, m



Check out page 159.

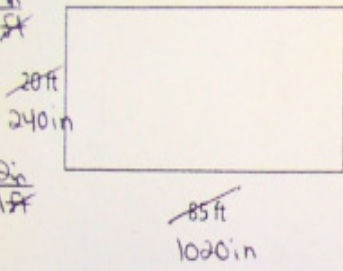


Conversion - (Worksheet #3)

1. Calculate the following perimeters:

a) Calculate in inches

(i)  $20\text{ ft} \times \frac{12\text{ in}}{1\text{ ft}}$   
 $= 240\text{ in}$



(ii)  $85\text{ ft} \times \frac{12\text{ in}}{1\text{ ft}}$   
 $= 1020\text{ in}$

(iii)  $P = 2(1020) + 2(240)$

$P = 2520\text{ in}$

Calculate the following areas in the indicated measurements:

a) yards

(iii)  $A = lw$

$A = (2160)(5)$

$A = 105600\text{ yd}^2$



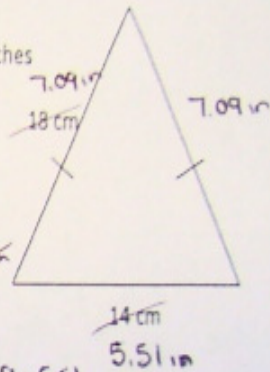
b) Calculate in inches

(i)  $18\text{ cm} \times \frac{1\text{ in}}{2.54\text{ cm}}$   
 $= 7.09\text{ in}$

(ii)  $14\text{ cm} \times \frac{1\text{ in}}{2.54\text{ cm}}$   
 $= 5.51\text{ in}$

(iii)  $P = 7.09 + 7.09 + 5.51$

$P = 19.69\text{ in}$

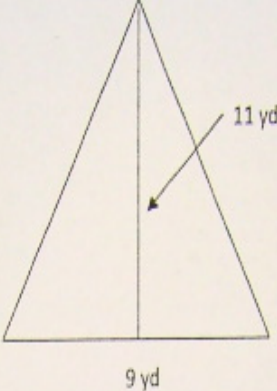


(i)  $12\text{ mi} \times \frac{1760\text{ yd}}{1\text{ mi}}$   
 $= 21120\text{ yd}$

(ii)  $15\text{ ft} \times \frac{1\text{ yd}}{3\text{ ft}}$   
 $= 5\text{ yd}$

b) feet

(iii)  $A = \frac{bh}{2}$   
 $A = \frac{(27)(33)}{2}$   
 $A = 445.5 \text{ ft}^2$



(i)  $11 \text{ yd} \times \frac{3 \text{ ft}}{1 \text{ yd}}$   
 $= 33 \text{ ft}$

(ii)  $9 \text{ yd} \times \frac{3 \text{ ft}}{1 \text{ yd}}$   
 $= 27 \text{ ft}$

---

c) inches

(i)  $8 \text{ cm} \times \frac{1 \text{ in}}{2.54 \text{ cm}}$   
 $= 3.15 \text{ in}$

(ii)  $A = \pi r^2$   
 $A = \pi (3.15)^2$   
 $A = \pi (9.9225)$   
 $A = 31.17 \text{ in}^2$

