1. master bedroom

$\frac{1cm}{3ft} = \frac{5cm}{l}$ $\frac{1cm}{3ft} = \frac{4cm}{w}$

$l = 15ft$ $w = 12ft$

Area = $180ft^2$

2. bedroom 2

$\frac{1cm}{3ft} = \frac{4cm}{l}$ $\frac{1cm}{3ft} = \frac{4cm}{w}$

$l = 12ft$ $w = 12ft$

Area = $144ft^2$

3. kitchen and dining area

$\frac{1cm}{3ft} = \frac{6}{l}$ $\frac{1cm}{3ft} = \frac{4cm}{w}$

$l = 18ft$ $w = 12ft$

Area = $216ft^2$

4. half bath

$\frac{1cm}{3ft} = \frac{2cm}{l}$ $\frac{1cm}{3ft} = \frac{3cm}{w}$

$l = 6ft$ $w = 9ft$

Area = $54ft^2$

5. entire house

$\frac{1cm}{3ft} = \frac{12cm}{l}$ $\frac{1cm}{3ft} = \frac{9cm}{w}$

$l = 36ft$ $w = 27ft$

Area = $972ft^2$

On a map, the scale is 1 inches = 50 miles. For each map distance, find the actual distance.

6. 5 inches

$\frac{1in}{50mi} = \frac{5in}{x}$

$x = 250$ miles

7. 12 inches

$\frac{1in}{50mi} = \frac{12in}{x}$

$x = 600$ miles

8. $2\frac{3}{8}$ inches

$\frac{1in}{50mi} = \frac{2\frac{3}{8}in}{x}$

$x = 118.75$ miles

9. $\frac{4}{5}$ inch

$\frac{1in}{50mi} = \frac{4/5in}{x}$

$x = 40$ miles

10. $2\frac{5}{6}$ inches

$\frac{1in}{50mi} = \frac{2\frac{5}{6}in}{x}$

$x = 191\frac{2}{3}$ miles

11. 3.25 inches

$\frac{1in}{50mi} = \frac{3.25in}{x}$

$x = 162.5$ miles

12. A queen bed has the dimensions of 5 feet wide by 6 feet 8 inches long. If you are drawing a scale drawing using the 1 inch = 20 inches, what will the dimensions of the bed be in your drawing? (**Hint**→ *You'll have to convert all the measurements to the same unit of measurement.*)

6ft 8in = 80 inches 5ft = 60 inches

$\frac{1\text{in}}{20\text{in}} = \frac{x}{60\text{in}}$ $\frac{1\text{in}}{20\text{in}} = \frac{x}{80\text{in}}$

$\frac{20x}{20} = \frac{60}{20}$ $\frac{20x}{20} = \frac{80}{20}$

$x = 3\text{in}$ $x = 4\text{in}$

3in by 4in

$\frac{1\text{in}}{1\text{ft}8\text{in}}$ ↓ $\frac{1\text{in}}{1.6\text{ft}}$

1) Using the information above, tell whether (Yes or No) the side lengths and angle measures can be those of a triangle. **Show work to prove why the angles and side lengths would or wouldn't make a triangle.**

MAKE SURE YOU'RE USING THE CORRECT METHOD! (Sides or Angles?)

A) 29°, 73°, 68°

$29+73+68$

$=170°$

No

B) 10 cm, 9 cm, 5 cm

$5+9>10$

$14>10$

Yes

C) 122°, 15°, 43°

D) 79°, 19°, 82°

E) 6 in, 6 in, 12 in

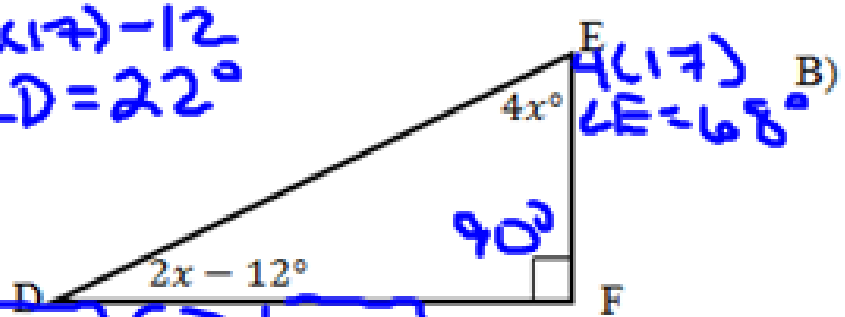
F) 5 ft, 7 ft, 14 ft

G) 144°, 25°, 13°

H) 8 m, 7 m, 9 m

2) Write and solve an equation to find the value of x. Find the measurements of the missing angles using x.

A)



$2(17)-12$

$\angle D = 22°$

$4(17)$

$\angle E = 68°$

90°

$(2x-12)+(4x+90)=180$

$6x+78=180$

$-78 \quad -78$

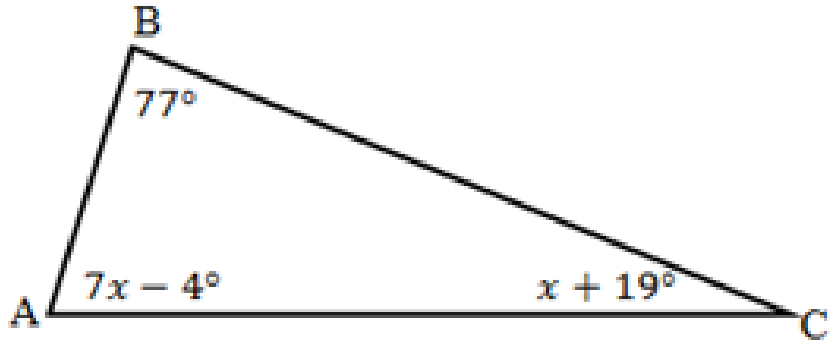
$\frac{6x}{6} = \frac{102}{6}$

$x = 17$

$x = \underline{17}$ $\angle D = \underline{22°}$ $\angle E = \underline{68°}$

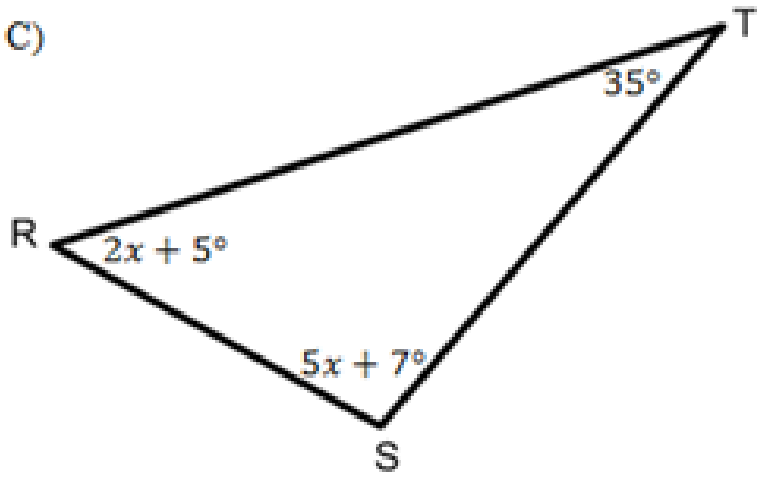
$22+68+90=180°$ ✓

B)



$x = \_\_\_\_$ $\angle A = \_\_\_\_$ $\angle C = \_\_\_\_$

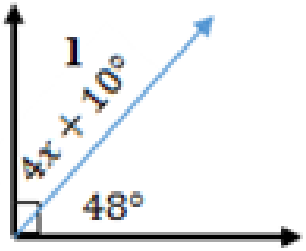
C)



$x =$ _____ $\angle R =$ _____ $\angle S =$ _____

3) Write and solve an equation to find the value of x. Then find the missing angle(s).

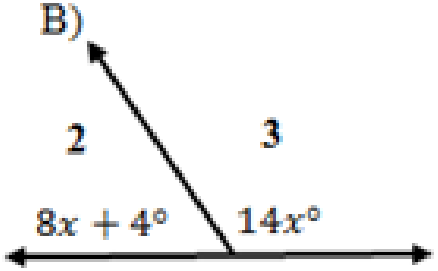
A)



Relationship: Complementary

$4x+10+48=90$

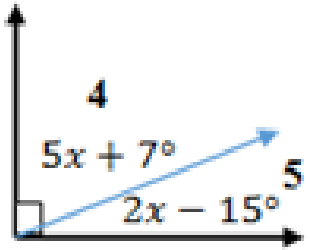
B)



Relationship: Supplementary

$8x+4+14x=180$

C)



Relationship: _____

$x =$ _____

$m\angle 1 =$ _____

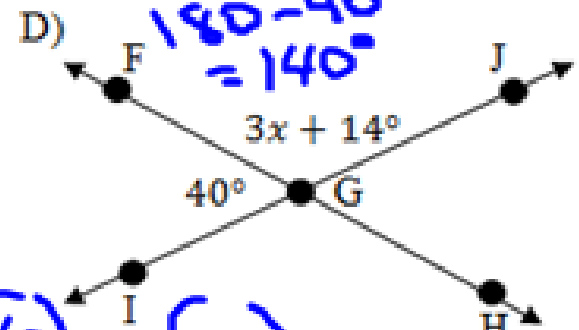
$x =$ _____

$m\angle 2 =$ _____ $m\angle 3 =$ _____

$x =$ _____

$m\angle 4 =$ _____ $m\angle 5 =$ _____

D)



180 − 40 = 140°

$x =$ 42

$\angle FGJ =$ 140°

$\angle JGH =$ 40°

$\angle FGI =$ 140°

(40) + 3x + (14) = 180

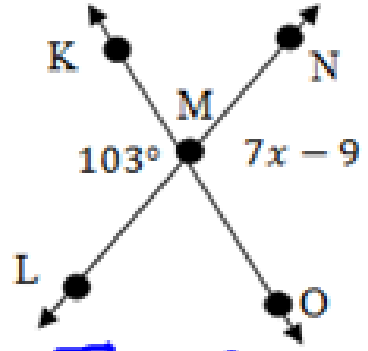
3x + 54 = 180

− 54 − 54

$\frac{3x}{3} = \frac{126}{3}$

x = 42

E)



$x =$ _____

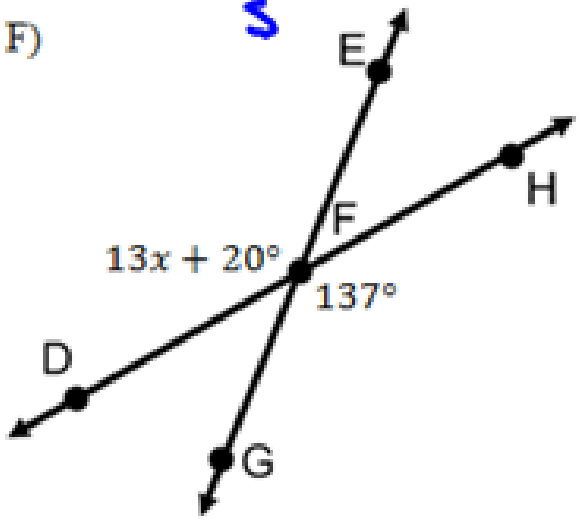
$\angle NMO =$ _____

$\angle KMN =$ _____

$\angle LMO =$ _____

7x − 9 = 103

F)



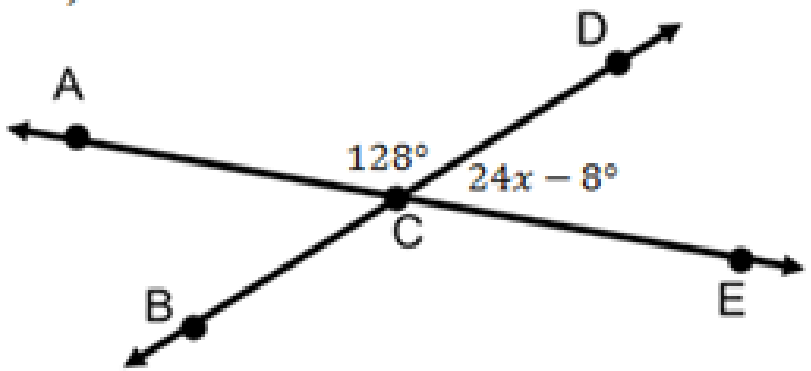
$x =$ _____

$\angle DFE =$ _____

$\angle EFH =$ _____

$\angle DFG =$ _____

G)



$x =$ _____

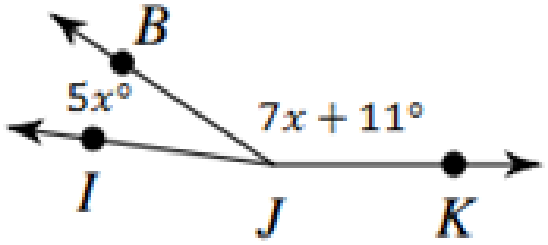
$\angle DCE =$ _____

$\angle BCE =$ _____

$\angle ACB =$ _____

4) Write and solve an equation to find the value of x using the information given. Then find the missing angle(s).

A) $\angle IJK = 167°$



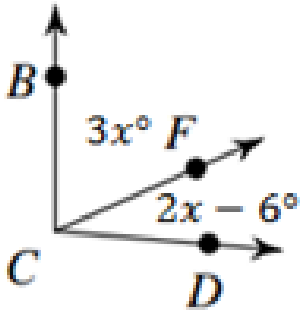
$5x + 7x + 11 = 167$

$x =$ _____

$\angle IJB =$ _____

$\angle KJB =$ _____

B) $\angle BCD = 99°$

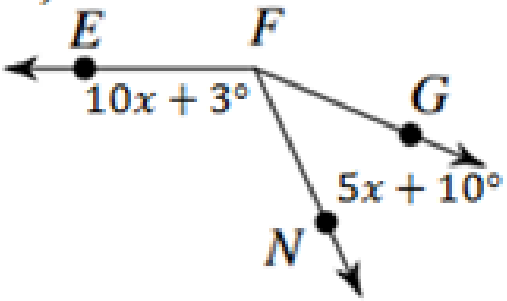


$x =$ _____

$\angle BCF =$ _____

$\angle DCF =$ _____

C) $\angle GFE = 133°$



$x =$ _____

$\angle EFN =$ _____

$\angle GFN =$ _____

5) A blueprint of a house that has a scale of $\mathbf{1}\boldsymbol{in} = \mathbf{4}\ \boldsymbol{ft}$. Use the scale to answer the following problems.

A) The living room of the house is $5\ in$ by $7\frac{1}{2}\ in$ on the blueprint. Determine the dimensions and area of the actual living room.

Dimensions → _____ Area = _____

B) A bedroom in the house has a width of $3\frac{1}{8}$ inches and a length of $4\frac{3}{4}$ inches on the blueprint. Determine the dimensions and area of the actual bedroom.

Dimensions → _____ Area = _____

C) The actual house is $45\ ft$ by $63\frac{1}{2}\ ft$. Determine the dimensions of the house on the blueprint.

Dimensions → _____

6) Find the lengths of the actual objects/people by using the scale given in each problem.

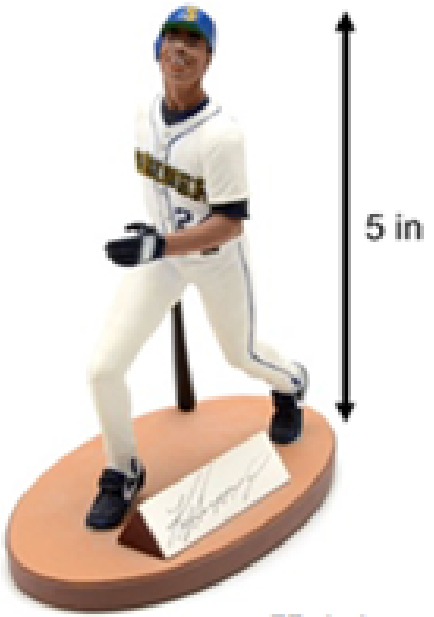
A) Find the actual length of the airplane.

1 cm = 9 ft

Length = _____

B) Find the actual height of the baseball player.

1 in = $1\frac{1}{4}$ ft



Height = _____

7) Use the figure below to answer A and B.

A) Identify the figure. Then identify all the bases, faces, edges, and vertices.

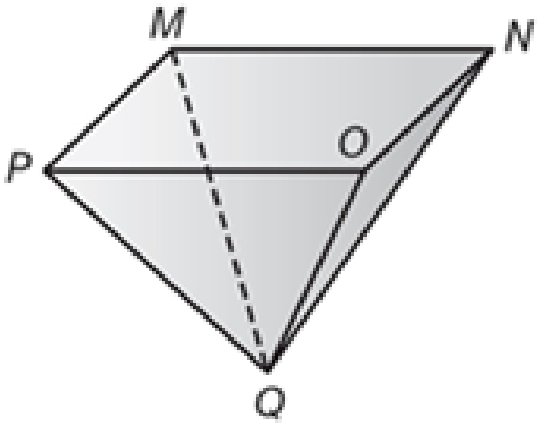


Figure Name: _____

Base(s): _____

Faces: _____

Edges: _____

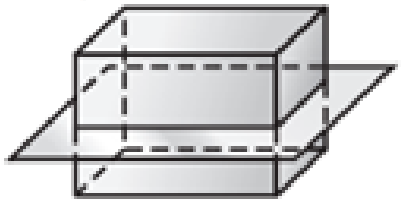
Vertices: _____

B) Draw a top, side, and front view of the figure above.

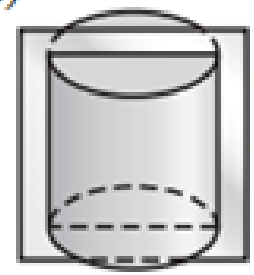
Top **Side** **Front**

8) Describe the shape resulting from each cross section.

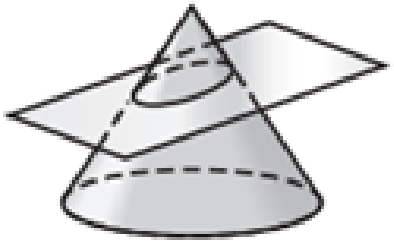
A)



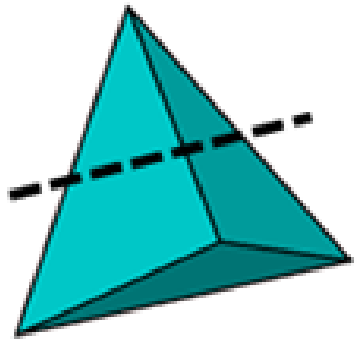
B)



C)



D)



E)