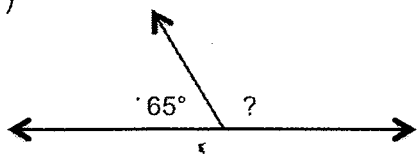


### BLUE Ch.3 Practice 1

Name the pair of angles. Find the missing angle. (2pt each)

1)

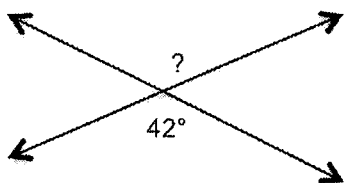


$$\begin{array}{r} 180 \\ - 65 \\ \hline 115^\circ \end{array}$$

Name: SUPPLEMENTARY

Missing Angle =  $115^\circ$

4)

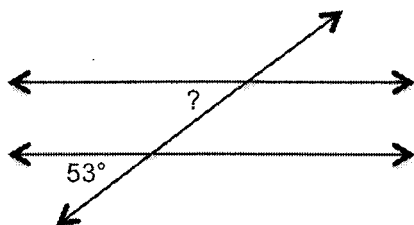


Name: VERTICAL

Missing Angle =  $42^\circ$

Identify the pair of angles. Find the missing angle. (2pts each)

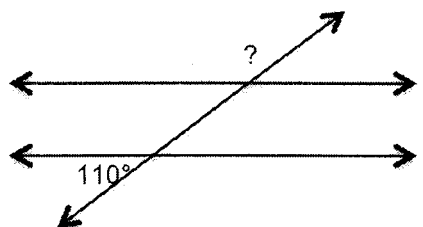
5)



Name: CORRESPONDING

Missing Angle =  $53^\circ$

6)



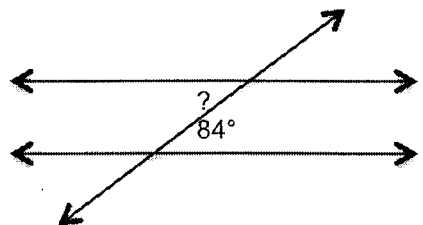
$$\begin{array}{r} 180 \\ - 110 \\ \hline 70 \end{array}$$

Name: EXTERIOR COLLINEAR

Missing Angle =  $70^\circ$

Identify the pair of angles. Find the missing angle. (2pts each)

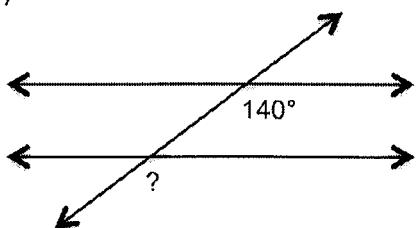
7)



Name: ALTERNATE INTERIOR

Missing Angle =  $84^\circ$

8)

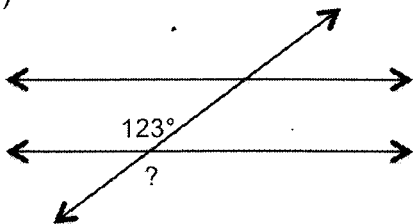


Name: CORRESPONDING

Missing Angle =  $140^\circ$

Identify the pair of angles. Find the missing angle. (2pts each)

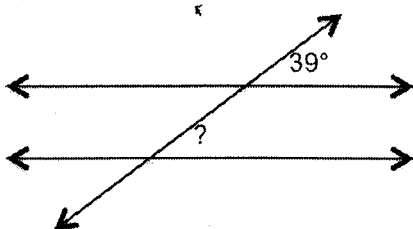
9)



Name: VERTICAL

Missing Angle =  $123^\circ$

10)

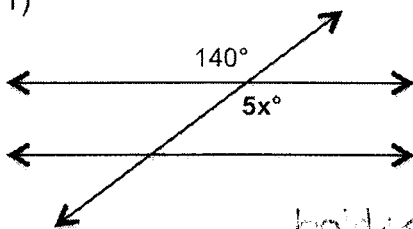


Name: CORRESPONDING

Missing Angle =  $39^\circ$

Solve for x. Then find the measure of the angle in bold. (3pts each)

11)



Vertical =

$$\begin{array}{r} 140 = 5x \\ \div 5 \quad | \quad \div 5 \\ \hline 28^\circ = x \end{array}$$

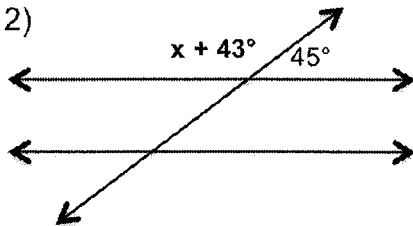
bolded:  $5(28) =$

$x = 28^\circ$

Bolded angle =  $140^\circ$

Solve for x. Then find the measure of the angle in bold. (3pts each)

12)



Supplementary  $- + = 180$

$$x + 43 + 45 = 180$$

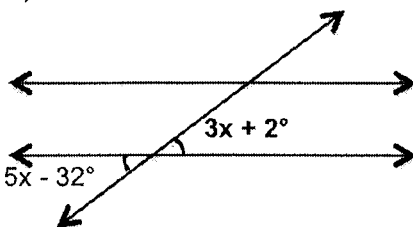
$$\begin{array}{r} x + 88 = 180 \\ - 88 \quad | - 88 \\ \hline x = 92 \end{array}$$

bolded:  $92 + 43 = 135^\circ$

$x = 92^\circ$

Bolded angle =  $135^\circ$

13)



$$\begin{array}{r} 3x + 2 = 5x - 32 \\ + 32 \quad | \quad + 32 \\ \hline 3x + 34 = 5x \end{array}$$

$$\begin{array}{r} 3x + 34 = 5x \\ - 3x \quad | - 3x \\ \hline 34 = 2x \end{array}$$

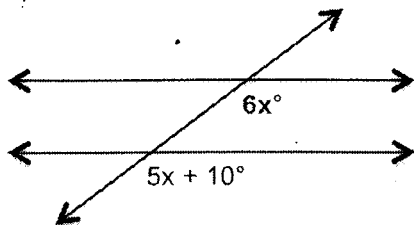
$$\begin{array}{r} 34 = 2x \\ \div 2 \quad | \quad \div 2 \\ \hline 17 = x \end{array}$$

$$\begin{array}{r} 3x + 2 \\ 3(17) + 2 \\ 51 + 2 \end{array}$$

$x = 17$

Bolded angle =  $53^\circ$

14)



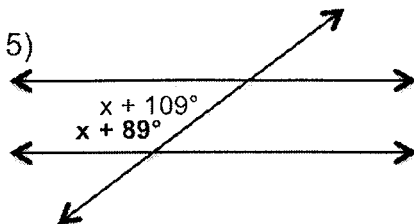
$$\begin{array}{r} 6x = 5x + 10 \\ -5x \quad | \quad -5x \\ \hline x = 10 \end{array}$$

$$6(10) = 60$$

$$x = 10^\circ$$

$$\text{Bolded angle} = 60^\circ$$

15)



$$x + 89 = x + 109 = 180$$

$$\begin{array}{r} 2x + 198 = 180 \\ -198 \quad | \quad -198 \\ \hline 2x = -18 \end{array}$$

$$\begin{array}{r} 2x = -18 \\ \div 2 \quad \div 2 \\ \hline x = -9 \end{array}$$

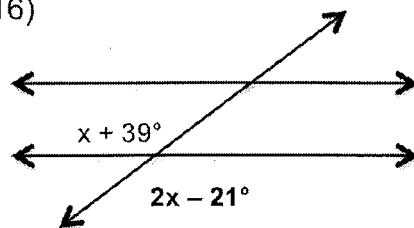
$$x = -9^\circ$$

$$\text{Bolded angle} = 80^\circ$$

$$x + 89 = -9 + 89 = 80$$

Solve for x. Then find the measure of the angle in bold. (3pts each)

16)



$$\begin{array}{r} x + 39 = 2x - 21 \\ -x \quad \quad | \quad -x \\ \hline 39 = x - 21 \end{array}$$

$$\begin{array}{r} 39 = x - 21 \\ +21 \quad | \quad +21 \\ \hline 60 = x \end{array}$$

$$60 = x$$

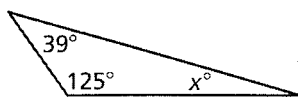
$$\begin{array}{r} 2x - 21 \\ 2(60) - 21 \\ 120 - 21 \\ 99 \end{array}$$

$$x = 60^\circ$$

$$\text{Bolded angle} = 99^\circ$$

Write an equation. Find the measure of the interior angles.

17)



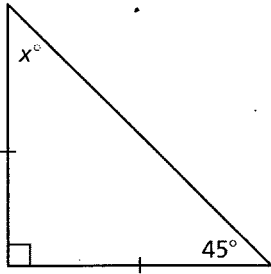
$$39 + 125 + x = 180^\circ$$

$$\begin{array}{r} 164 + x = 180 \\ -164 \quad | \quad -164 \\ \hline x = 16^\circ \end{array}$$

$$x = 16^\circ$$

Write an equation. Find the measure of the interior angles.

18)

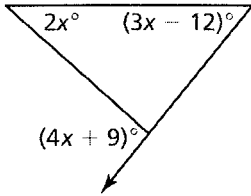


$$90 + 45 + x = 180^\circ$$

$$\begin{array}{r} 135 + x = 180^\circ \\ -135 \quad | \quad -135 \\ \hline x = 45^\circ \end{array}$$

Write an equation. Find the measure of the exterior angles.

19)



$$2x + 3x - 12 = 4x + 9$$

$$\begin{array}{r} 5x - 12 = 4x + 9 \\ +12 \quad | \quad +12 \\ \hline 5x = 4x + 21 \end{array}$$

$$\begin{array}{r} 5x - 4x = 4x + 21 \\ -4x \quad | \quad -4x \\ \hline x = 21 \end{array}$$

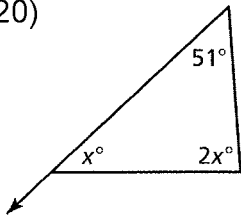
$$x = 21$$

$$4x + 9$$

$$4(21) + 9$$

$93^\circ = \text{exterior angle}$

20)

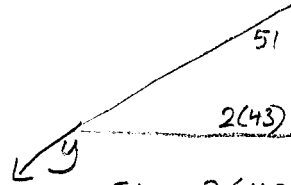


$$x + 2x + 51 = 180$$

$$\begin{array}{r} 3x + 51 = 180 \\ -51 \quad | \quad -51 \\ \hline 3x = 129 \end{array}$$

$$\begin{array}{r} 3x = 129 \\ \div 3 \quad | \quad \div 3 \\ \hline x = 43 \end{array}$$

$$x = 43^\circ$$



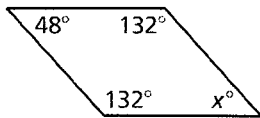
$$51 + 2(43) = y$$

$$51 + 86 = y$$

$137^\circ = \text{exterior angle}$

Write an equation. Find the measures of the interior angles

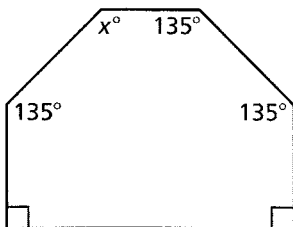
21)



$$132 + 132 + 48 + x = 360$$

$$x = 48^\circ$$

22)



$$(n-2) \cdot 180$$

$$(6-2) \cdot 180$$

$$4 \times 180 = 720$$

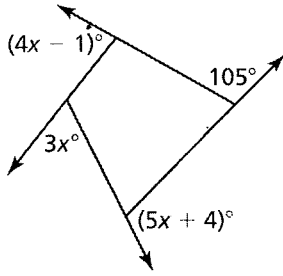
$$90 + 90 + 135 + 135 + 135 + x = 720$$

$$585 + x = 720$$

$$x = 135^\circ$$

Write an equation. Find the measures of the exterior angles of the polygon.

23)



Exterior =  $360^\circ$

$$4x - 1 + 105 + 3x + 5x + 4 = 360$$

$$12x + 108 = 360$$

$$\underline{-108} \quad \underline{-108}$$

$$12x = 252$$

$$\underline{\div 12} \quad \underline{\div 12}$$

$$x = 21$$

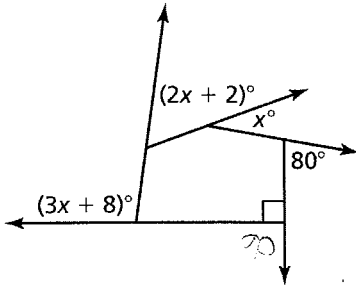
$$105 = 105^\circ$$

$$5x + 4 = 109^\circ$$

$$3x = 63^\circ$$

$$4x - 1 = 83^\circ$$

24)



$$25x + 2 + x + 80 + 90 + 3x + 8 = 360$$

$$6x + 180 = 360$$

$$\underline{-180} \quad \underline{-180}$$

$$6x = 180$$

$$\underline{\div 6} \quad \underline{\div 6}$$

$$x = 30$$

$$x = 30^\circ$$

$$80^\circ = 80^\circ$$

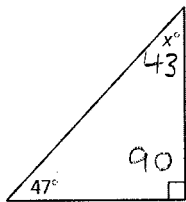
$$90^\circ = 90^\circ$$

$$3x + 8 = 98^\circ$$

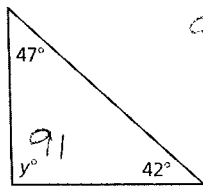
$$2x + 2 = 62^\circ$$

Tell whether

25)



the triangles are similar?



$$90 + 47 + x = 180$$

$$137 + x = 180$$

$$\underline{-137} \quad \underline{-137}$$

$$x = 43$$

$$47 + 42 + y = 180$$

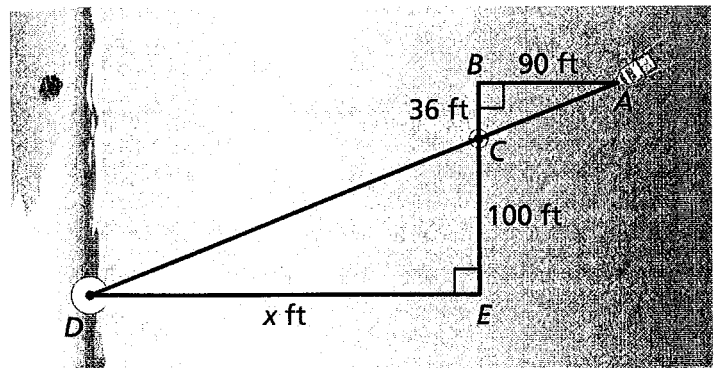
$$89 + y = 180$$

$$\underline{-89} \quad \underline{-89}$$

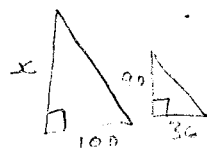
$$y = 91$$

The triangles are NOT similar.

You are on a boat in the ocean, at point A. You locate a lighthouse at point D, beyond the line of sight of the marker at point C. You travel 90 feet west to point B and then 36 feet south to point C. You travel 100 feet more to arrive at point E, which is due east of the lighthouse. What is the distance from point E to the lighthouse?



The distance from E to the lighthouse is 250 ft.



$$\frac{90}{36} = \frac{x}{100}$$

$$36 \overline{) 900}$$

$$\underline{-72} \phantom{0}$$

$$180$$

$$\underline{-180}$$

$$0$$