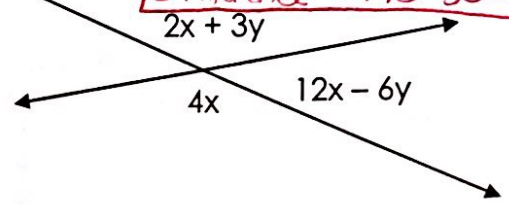


Answer Key

1.5 More Practice (Please put your work on the same sheet as your homework. NOT HERE.)

- Find the measure of an angle whose supplement is 50 more than twice its complement.
 $180 - x = 2(90 - x) + 50$
 $180 - x = 180 - 2x + 50$
 $180 - x = 230 - 2x$
 $180 + x = 230$
 $x = 50$
 Supp = 130
 $180 - 50$
 Comp = 40
 $90 - 50$
- What is the measure of the supplement of an angle if the ratio of an angle and its complement is 7:3?
 $\frac{7}{3} = \frac{x}{90 - x}$
 $7(90 - x) = 3x$
 $630 - 7x = 3x$
 $630 = 10x$
 $x = 63$
 Supplement = $180 - 63 = 117^\circ$
- What is the sum of the complement and the supplement of an angle if the ratio of the complement to the supplement is 2:5?
 $\frac{2}{5} = \frac{90 - x}{180 - x}$
 $5(90 - x) = 2(180 - x)$
 $450 - 5x = 360 - 2x$
 $3x = 90$
 $x = 30$
 Supplement = $180 - 30 = 150$
 Complement = $180 - 30 = 60$
 Sum = $150 + 60 = 210$
- Find the formula for the sum of any complement and supplement of an angle in terms of the angle.
 $(90 - x) + (180 - x)$
 $270 - 2x$
- If $m\angle 1 = 10x + 8$ and $m\angle 2 = x^2 - 92$, find the $m\angle 2$ if $\angle 1$ and $\angle 2$ are supplementary.
 $10x + 8 + x^2 - 92 = 180$
 $x^2 + 10x - 264 = 0$
 $(x - 12)(x + 22) = 0$
 $x = 12$
 $m\angle 2 = (12)^2 - 92 = 52^\circ$
- The complement of an angle is 120 less than twice the square of the angle. Find the difference between the supplement and the complement of the angle.
 $(90 - x) = 2x^2 - 120$
 $0 = 2x^2 + x - 210$
 $(x - 10)(2x + 21) = 0$
 $x = 10$
 Supp = $180 - 10 = 170$
 Comp = $90 - 10 = 80$
 Difference = $170 - 80 = 90$
- Using the diagram, find the product of x and y .



System!

$$2x + 3y + 12x - 6y = 180 \Rightarrow 14x - 3y = 180$$

$$4x + 12x - 6y = 180 \Rightarrow 16x - 6y = 180$$

$$-28x + 6y = -360$$

$$\frac{-12x}{-12} = \frac{-180}{-12}$$

$$x = 15$$

Product = 15(10)
150

$$14(15) - 3y = 180$$

$$210 - 3y = 180$$

$$-210 - 210$$

$$-3y = -30$$

$$y = 10$$