$$(3x^2 + 2x - 2) + (-5x^2 + 5x + -6)$$

$$-2x^2 + 7x - 8$$

Solve the equation.

$$(4z - 1)(z + 5) = 0$$

$4z^2 + 19z - 5 = 0$

$(4z - 1)(z + 5) = 0$

$4z - 1 = 0 \quad z + 5 = 0$

$z = \frac{1}{4}$ or $z = -5$

Start	Factor	Solve
$2x^2+3x+4$	$(\square x+\square)(\square x+\square)$	$x=\square$ or $x=\square$
$4x^2-16$	$(\square x+\square)(\square x+\square)$	$x=\square$ or $x=\square$
$3x^3y^3-9xy^2$	$\square x^{\square}y^{\square}(\square x^{\square}-\square)$	$x=\square$ or $x=\square$

$$3m^2-9m=0$$

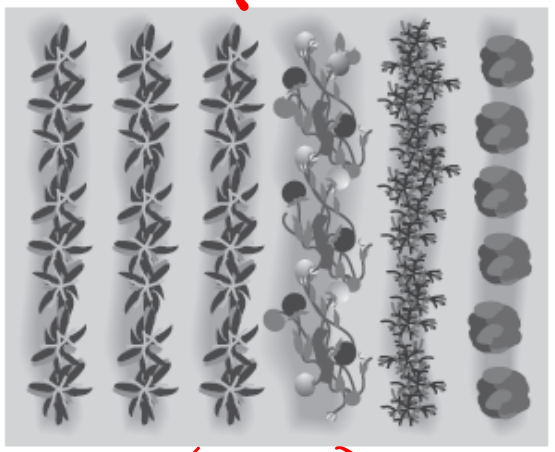
$3m^2 + 20m + 12$

FACTOR

$(3m + 2)(m + 6)$

1, 12
2, 6
3, 4

A small vegetable garden has an area of 80 square feet. Its length is 2 feet more than the width. Find the dimensions of the garden.



$A = l \cdot w$

$= x \cdot (x+2)$

$80 = x^2 + 2x$

$-80 \qquad -80$

$0 = x^2 + 2x - 80$

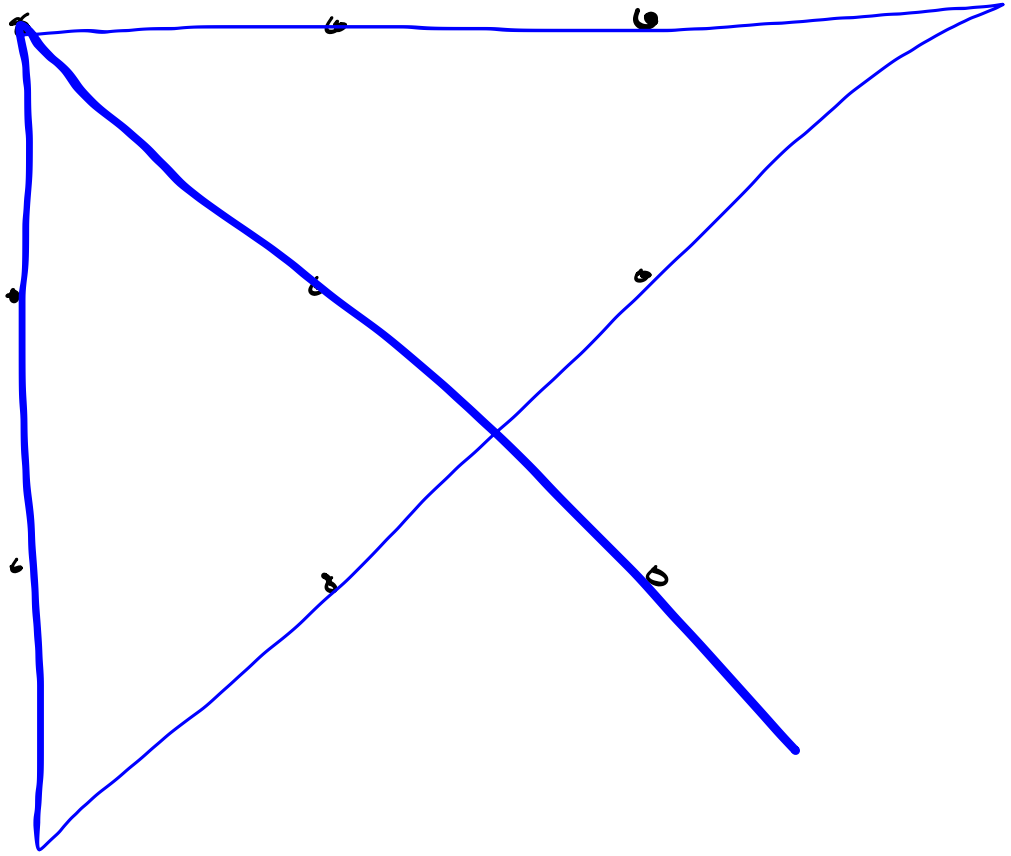
$0 = (x+10)(x-8)$

$x = -10$ or $x = 8$

$4(2+2) = 16$

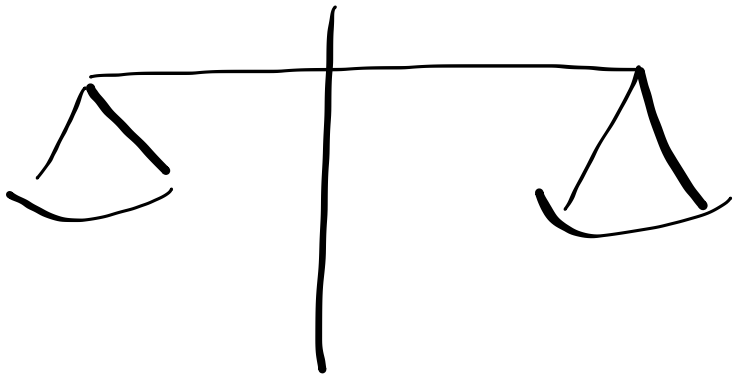
$8 + 2 = 10$ NOPE.

1	80
2	40
4	20
8	10



10 pennies

1 is too heavy or too light



Find the penny with the wrong weight (only use the scale 3 times)

$$3m^2 - 9m = 0$$

$$3m(m-3)=0$$

$$\frac{3m^2}{3m} = m \qquad \frac{-9m}{3m} = -3$$

$3m=0 \qquad m-3=0$

$m=0$ or $m=3$

Factor out the greatest common monomial factor.

$$2k^3 + 6k^2 - 14k$$

$2k(k^2+3k-7)$

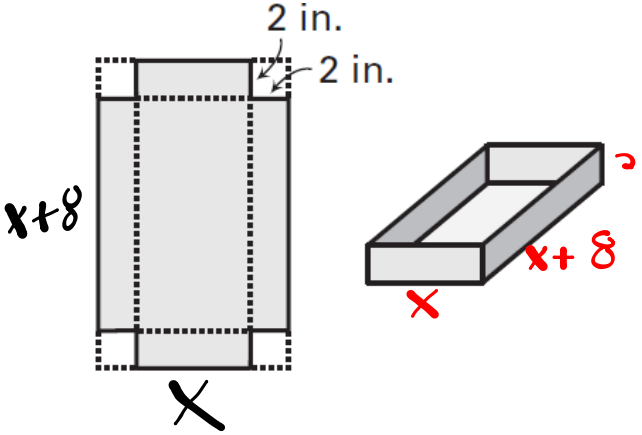
Find the product.

$$(s^2 + 6s - 5)(5s + 2)$$

$5s^3 + 2s^2 + 30s^2 + 12s + -25s - 10$

$5s^3 + 32s^2 - 13s - 10$

You are making an open box from a rectangular sheet of cardboard by cutting squares 2 inches in length from each corner and folding up the sides. The length of the sheet of cardboard is 8 inches more than the width. Write a polynomial that represents the total volume of the open box.



$V = l \cdot w \cdot h$

$x(x+8) \cdot 2$

$(x^2+8x) \cdot 2$

$2x^2+16x$

Solve the equation.

$7y - 2 = 5y^2$ $\quad ax^2+by+c=0$

$-5y^2 \qquad -5y^2$

$-5y^2+7y-2=0$

$\frac{-5y^2+7y-2=0}{-1} \qquad \frac{}{-1}$

$5y^2-7y+2=0$

$(5y-2)(y-1)=0$

$5y-2=0 \qquad y-1=0$

$y=\frac{2}{5} \qquad y=1$

$(-5y+2)(y-1)=0$

$y=\frac{2}{5} \qquad y=1$

Find the zeros of the function.

$$f(x) = -42x^2 - 14x$$

Find the zeros of the function.

$g(x) = -10x^2 + 3x + 27$

$\frac{0}{-1} = \frac{-10x^2+3x+27}{-1}$

$0 = 10x^2 - 3x - 27$

$0 = (5x - 9)(2x + 3)$

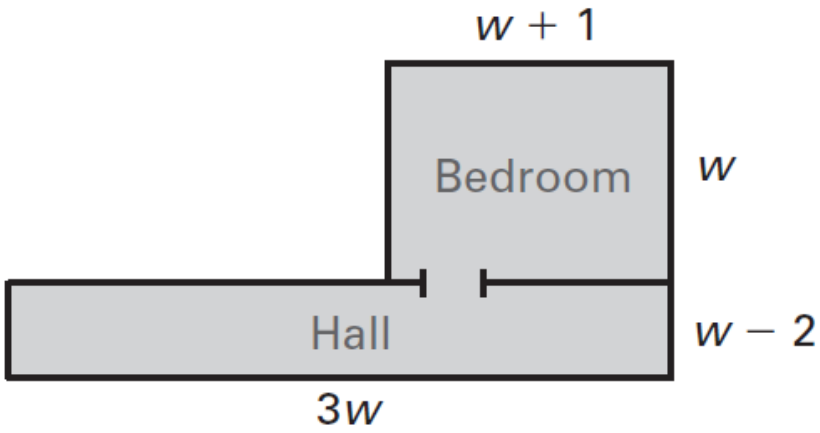
$x = \frac{9}{5}$ $x = \frac{-3}{2}$

5, 2 -9, 3

The room and the hallway shown in the floor plan below have different dimensions but the same area.

Write an equation that relates the areas of the rooms.

Find the value of w.



Suggested homework —
relevant problems in Chapter 9 review & test