

Expand

FOIL

$$(2x-4)(5x+7)$$

$$= 10x^2 + 14x - 20x - 28$$

$$= 10x^2 - 6x - 28$$

Factor:

$$r^2 - \underline{7r} - \underline{18}$$

$$= (r + 2)(r - 9)$$

$$\begin{array}{r} \textcircled{\times} -18 \\ \textcircled{+} -7 \\ \hline 1 \quad 18 \\ 2, 9 \\ 3, 6 \end{array}$$

$$\frac{4x^2}{4} + \frac{52x}{4} + \frac{144}{4}$$

$$= 4(x^2 + 13x + 36)$$

$$= 4(x+4)(x+9)$$

$$\begin{array}{r} \textcircled{\times} \quad 36 \\ \textcircled{+} \quad 13 \\ \hline 1, 36 \\ 2, 18 \\ \textcircled{4, 9} \end{array}$$

$$9x^2 - 25$$

$$= \sqrt{9x^2} - \sqrt{25}$$

$$= (3x - 5)(3x + 5)$$

Find solution set:

$$x^2 = -\cancel{5x} - \cancel{6}$$

~~$+5x + 6$~~

$$= x^2 + 5x + 6$$

$$= (x+2)(x+3)$$

↙

$$x+2=0$$

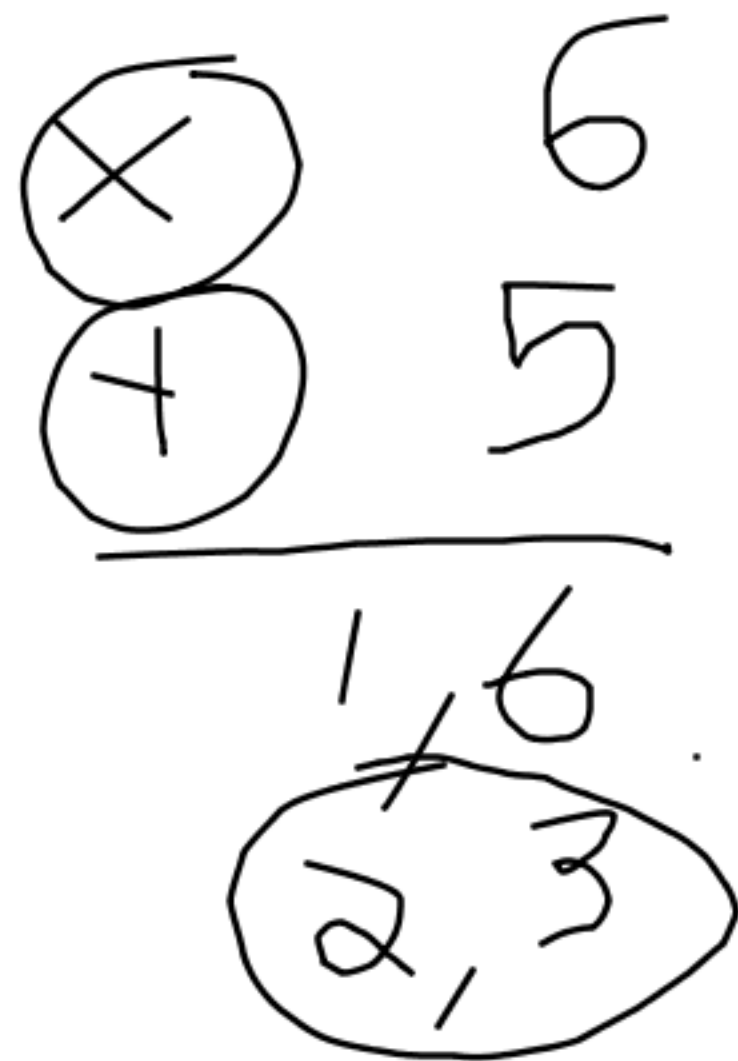
$$x = -2$$

↘

$$x+3=0$$

$$x = -3$$

S.S. $\{-2, -3\}$



$$\begin{aligned}
 & 4m^2 + 15m - 25 \\
 &= \underbrace{4m^2 + 20m}_{4m} \underbrace{- 5m - 25}_{-5} \\
 &= 4m(m+5) - 5(m+5) \\
 &= (m+5)(4m-5)
 \end{aligned}$$

A sign chart is shown in the top right corner:

$\otimes$	-100
$\oplus$	15
	$1, 100$
	$2, 50$
	<u>$-5, 20$</u>