

pg 946 # 3-57 mod 3

$$3. \quad \begin{array}{r} 10m^2 - 7m + 2 \\ - (3m^2 - 2m + 5) \\ \hline -3m^2 + 2m - 5 \end{array}$$

$$\boxed{7m^2 - 5m - 3} \rightarrow 2^{\text{nd}} \text{ degree trinomial}$$

$$6. \quad \begin{array}{r} r^2 - 8 + 4r^3 + 5r \\ - (7r^3 - 3r^2 + 5) \\ \hline 4r^3 + r^2 + 5r - 8 \\ - 7r^3 + 3r^2 - 5 \\ \hline -3r^3 + 4r^2 + 5r - 13 \end{array}$$

$$\begin{array}{r} 4r^3 + r^2 + 5r - 8 \\ - 7r^3 + 3r^2 - 5 \\ \hline -3r^3 + 4r^2 + 5r - 13 \end{array}$$

$$\boxed{-3r^3 + 4r^2 + 5r - 13} \rightarrow 3^{\text{rd}} \text{ degree polynomial w/ 4 terms}$$

$$9. \quad (2x+3)(4x+2)$$

	2x	3
4x	8x ²	12x
2	4x	6

$$\boxed{8x^2 + 16x + 6} \rightarrow 2^{\text{nd}} \text{ degree trinomial}$$

$$12. \quad (9t-2)(2t-3)$$

	9t	-2
2t	18t ²	-4t
-3	-27t	6

$$\boxed{18t^2 - 31t + 6} \rightarrow 2^{\text{nd}} \text{ degree trinomial}$$

$$15. \quad (4x-2)(4x+2)$$

$$\boxed{16x^2 - 4}$$

2nd degree binomial

	4x	-2
4x	16x ²	-8x
2	8x	-4

18. $(-11x - 4y)^2$

	$-11x$	$-4y$
$-11x$	$121x^2$	$44xy$
$-4y$	$44xy$	$16y^2$

$121x^2 + 88xy + 16y^2 \rightarrow$ 2nd degree trinomial

21. $(5y - 3)(2y - 4) = 0$

$5y - 3 = 0$	$2y - 4 = 0$
$\frac{5y}{+3} = \frac{3}{+3}$	$\frac{2y}{+4} = \frac{4}{+4}$
$\frac{5y}{5} = \frac{3}{5}$	$\frac{2y}{2} = \frac{4}{2}$

$y = \frac{3}{5}$ or $y = 2$

24. $14k^2 = 28k$

$\frac{-28k}{14k}$	$\frac{-28k}{14k}$
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$14k^2 - 28k = 0$ GCF = $14k$

$14k(k - 2) = 0$

$\frac{14k}{14} = 0$	$\frac{k - 2}{+2} = 0$
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$k = 0$ or $k = 2$

27. $x^2 + 5x - 36$

$(x + 9)(x - 4)$

$b = 5$ $\frac{9}{9} + \frac{-4}{-4}$
 $ac = -36$ $\frac{9}{9} x \frac{-4}{-4}$

30. $y^2 + 14y - 72$

$(y + 18)(y - 4)$

$b = 14$ $\frac{18}{18} + \frac{-4}{-4}$
 $ac = -72$ $\frac{18}{18} x \frac{-4}{-4}$

33. $z^2 - 13z + 24 = -12$

$+12$	$+12$
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$z^2 - 13z + 36 = 0$

$(z - 9)(z - 4) = 0$

$\frac{z - 9}{+9} = 0$	$\frac{z - 4}{+4} = 0$
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$z = 9$ or $z = 4$

$b = -13$ $\frac{-9}{-9} + \frac{-4}{-4}$
 $ac = 36$ $\frac{-9}{-9} x \frac{-4}{-4}$

$$\textcircled{36} \quad c^2 - 8 = -13c + 6$$

$$\frac{+13c - 6}{+13c - 6}$$

$$c^2 + 13c - 14 = 0$$

$$b = 13 \quad \frac{14}{14} + \frac{-1}{-1}$$

$$ac = -14 \quad \frac{14}{14} \times \frac{-1}{-1}$$

$$(c + 14)(c - 1) = 0$$

$$c + 14 = 0 \quad c - 1 = 0$$

$$\frac{-14}{-14} \quad \frac{-1}{+1}$$

$$\boxed{c = -14 \text{ or } c = 1}$$

$$\textcircled{39} \quad 4k^2 - 12k + 5$$

$$\boxed{(2k - 1)(2k - 5)}$$

	$2k$	-1
$2k$	$4k^2$	$-2k$
-5	$-10k$	5

$$b = -12 = \frac{-2}{-2} + \frac{10}{10}$$

$$ac = 20 = \frac{-2}{-2} \times \frac{10}{10}$$

$$\textcircled{42} \quad 2v^2 - 5v + 3$$

$$\boxed{(2v - 1)(v - 1)}$$

	v	-1
$2v$	$2v^2$	$-2v$
-1	$-3v$	3

$$b = -5 = \frac{-3}{-3} + \frac{2}{2}$$

$$ac = 6 = \frac{-3}{-3} \times \frac{2}{2}$$

$$\textcircled{45} \quad 2x^2 + 3x - 2 = 0$$

$$(2x - 1)(x + 2) = 0$$

$$2x - 1 = 0 \quad x + 2 = 0$$

$$\frac{+1}{+1} \quad \frac{-2}{-2}$$

$$\frac{2x}{2} = \frac{1}{2} \quad x = -2$$

	x	2
$2x$	$2x^2$	$4x$
-1	$-x$	-2

$$b = 3 = \frac{4}{4} + \frac{-1}{-1}$$

$$ac = -4 = \frac{4}{4} \times \frac{-1}{-1}$$

$$\boxed{x = \frac{1}{2} \text{ or } x = -2}$$

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$$t(6t-7) = 3$$

$$6t^2 - 7t = 3$$

$$\begin{array}{r} -3 \quad -3 \\ \hline \end{array}$$

$$6t^2 - 7t - 3 = 0$$

$$(3t+1)(2t-3) = 0$$

$$\begin{array}{r} 3t+1=0 \quad 2t-3=0 \\ -1 \quad -1 \quad \quad +3 \quad +3 \\ \hline \end{array}$$

$$\frac{3t}{3} = \frac{-1}{3} \quad \frac{2t}{2} = \frac{3}{2}$$

$$t = -\frac{1}{3} \text{ or } t = \frac{3}{2}$$

GCF=1

	$2t$	-3
$3t$	$6t^2$	$-9t$
1	$2t$	-3

$$b = -7 \quad \frac{-9}{-9} + \frac{2}{2}$$

$$ac = -18 \quad \frac{-9}{-9} \times \frac{2}{2}$$

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$$12y^2 - 27 \quad \text{GCF} = 3$$

$$3(4y^2 - 9) \quad \leftarrow \text{Difference of Perfect Squares}$$

$$3(2y+3)(2y-3)$$

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$$\frac{27x^2 - 36x + 12}{3} \quad \text{GCF} = 3$$

$$3(9x^2 - 12x + 4)$$

$$3(3x-2)(3x-2)$$

OR

$$3(3x-2)^2$$

	$3x-2$	
$3x$	$9x^2$	$-6x$
-2	$-6x$	4

$b = -12 \quad \frac{-6}{-6} + \frac{6}{6}$
 $ac = 36 \quad \frac{-6}{-6} \times \frac{6}{6}$

57

$$4w^2 + 28w + 49$$

$$(2w+7)^2$$

OR

$$(2w+7)(2w+7)$$

	$2w$	7
$2w$	$4w^2$	$14w$
7	$14w$	49

$$b = 28 \quad 14 + 14$$

$$ac = 196 \quad 14 \times 14$$

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pg 621 # 32-35a

(49) $\frac{d}{dt} 16 \text{ ft}$ $v = 46 \text{ ft/sec}$
 $s = 6 \text{ ft}$
 $h = 0 \text{ ft}$

$$h = -16t^2 + vt + s$$

$$0 = \frac{-16t^2}{-2} + \frac{46t}{-2} + \frac{6}{-2} \quad \text{GCF} = -2$$

$8t$	-3	
$8t^2$	$-24t$	$b = -23 \cdot 24 + 1$
t	-3	$\text{GC} = -24 \cdot 24 \times 1$

$8 \div 3$

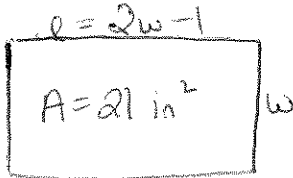
$$0 = \frac{-2(8t^2 - 23t - 3)}{-2}$$

$$0 = (t-3)(8t+1)$$

$0 = t - 3$	$0 = 8t + 1$
$+3 \quad +3$	$\frac{-1}{-1} \quad \frac{-1}{-1}$
<hr/>	<hr/>
$3 = t$	$-1 = 8t$

The ball reaches the ground in 3 seconds.

(50)



$$A = lw$$

$$21 = (2w-1)w$$

$$21 = 2w^2 - w$$

$$0 = 2w^2 - w - 21$$

$$0 = (2w-7)(w+3)$$

$0 = 2w - 7$	$0 = w + 3$
$+7 \quad +7$	$\frac{-3}{-3} \quad \frac{-3}{-3}$
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$7 = 2w$	$-3 = w$

$$\frac{7}{2} = \frac{2w}{2}$$

$$\frac{7}{2} = w$$

$$l = 2w - 1$$

$$= 2\left(\frac{7}{2}\right) - 1$$

$$= 7 - 1$$

$$l = 6$$

$$b = -1 \quad \frac{6}{6} \quad \frac{+7}{+7}$$

$$\text{GC} = -42 \quad \frac{6}{6} \quad \frac{\times 7}{\times 7}$$

$2w$	-7
w	$2w^2 - 7w$
3	$6w - 21$

The length of the rectangle is 6 inches.

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$$\boxed{\begin{array}{l} A=3w(w) \\ 3w \end{array}} w$$

$$\boxed{\begin{array}{l} A=2w(w+2) \\ 2w \end{array}} w+2$$

a) 2 posters have the same Area

$$3w(w) = 2w(w+2)$$

$$3w^2 = 2w^2 + 4w$$

$$b) 3w^2 = 2w^2 + 4w$$

$$\begin{array}{r} -2w^2 - 4w \\ \hline 3w^2 - 2w^2 - 4w = 0 \end{array}$$

$$w^2 - 4w = 0 \quad \text{GCF} = w$$

$$w(w-4) = 0$$

$$w=0 \quad \text{or} \quad w-4=0$$

$$\underline{w=4}$$

$$\boxed{} w=4$$

$$3w = 3(4)$$

length = 12 ft
width = 4 ft

$$\boxed{} \begin{array}{l} w+2 \\ 4+2 \end{array}$$

$$2w = 2(4)$$

length = 8 ft
width = 6 ft

