

$$4) \quad 4x^2 = x + 3$$

$$4x^2 - x - 3 = 0$$

$$4x - 4x + 3x - 3 = 0$$

$$(4x + 3)(x - 1) = 0$$

$$4x + 3 = 0 \quad x - 1 = 0$$

$$x = -\frac{3}{4} \quad x = 1$$

multiply $ac = -12$

add $b = -1$

~~4, -3~~
~~-3, 4~~
 $\rightarrow -4, 3$

$4x^2$	$-4x$	$4x$
$3x$	-3	3
x	-1	

$$8) \quad 2p^2 = -21p - 40$$

$$+21p + 40$$

multiply to $+80$

add to 21

16
5

$$2p^2 + 21p + 40 = 0$$

$$(2p + 5)(p + 8) = 0$$

$$2p + 5 = 0 \quad p + 8 = 0$$

$$p = -\frac{5}{2} \quad p = -8$$

$2p^2$	$16p$	$2p$
$5p$	40	5
p	8	

factoring differences of squares

$$1, 4, 9, 16, 25$$

$$1^2, 2^2, 3^2, 4^2, 5^2, 6^2$$

$$n^2 - 64$$

$$n^2 - 8^2$$

$$(n+8)(n-8)$$

$$4m^2 - 81n^2$$

$$(2m)^2 - (9n)^2$$

$$(2m+9n)(2m-9n)$$

$$\frac{50a^2}{2} - \frac{72}{2}$$

$$2(25a^2 - 36)$$

$$2(5a-6)(5a+6)$$

$$4x^4 + 8x^3 - 4x^2 - 8x$$

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

$$4x[(x^3 + 2x^2)(-x - 2)]$$

$$4x[x^2(x+2) - 1(x+2)]$$

$$4x[(x^2-1)(x+2)]$$

$$4x[(x+1)(x-1)(x+2)]$$

p.35 #21

$$3x^4 + 6x^3 - 3x^2 - 6x,$$

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

$$3x[(x^3 + 2x^2)(-x - 2)]$$

$$3x[x^2(x+2) - 1(x+2)]$$

$$3x[(x^2-1)(x+2)]$$

$$3x[(x+1)(x-1)(x+2)]$$

Solve difference of squares

$$4x^3 = 9x$$

$$4x^3 - 9x = 0$$

$$x(4x^2 - 9) = 0$$

$$x[(2x+3)(2x-3)] = 0$$

$$x = 0 \quad \text{or} \quad 2x+3=0 \quad \text{or} \quad 2x-3=0$$

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

$$\text{or } x = \frac{3}{2}$$

p. 36

1. $81x^2 = 49$

$$81x^2 - 49 = 0$$

$$(9x)^2 - 7^2 = 0$$

$$(9x+7)(9x-7) = 0$$

p. 35 1, 4, 7, 10

p. 36 2, 3, 4