

"educated guessing"
method

#10 p. 234 $5r^2 + 23r + 26$ 1. 26
2. 13
(factor)

$$(5r + 13)(r + 2)$$

$\underbrace{\hspace{1.5cm}}_{13r}$
 $\underbrace{\hspace{3.5cm}}_{10r}$

factored: $(5r + 13)(r + 2)$

#25 p. 235

square rug
s'

$$\boxed{5x - 1 = s \quad A = s^2}$$

$$A = 25x^2 - 10x + 1$$

factor: $\underline{\underline{(5x - 1)^2 = s^2}}$

$$a^2 - 2ab + b^2 = (a - b)^2$$

$$a = 5x$$

$$b = 1$$

#27 factor $18z^2 - 8$

GCF: 2

$$2(9z^2 - 4)$$

$$\underbrace{\hspace{10em}}$$
 factor

$$a^2 - b^2$$

$$a = 3z \quad b = 2$$

$$(a+b)(a-b)$$

$$2(3z+2)(3z-2)$$

#31 $12x^2 + 36x + 27$

(factor)

GCF: 3

square of sum

$$a^2 + 2ab + b^2$$

$$= (a+b)^2$$

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

$$\underbrace{\hspace{10em}}$$

$$(2x)^2 \qquad (3)^2$$

$$a = 2x \qquad b = 3$$

$$2ab = 2 \cdot 2x \cdot 3 = 12x$$

(factored)

$$(a+b)^2$$

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

Q: how do you separate
 $+2ab$, $-2ab$

Examples

$$x^2 + 6x + 9$$

$$\begin{array}{c} \uparrow \\ a^2 + 2ab + b^2 \end{array}$$

$$(x+3)^2$$

$$x^2 - 6x + 9$$

$$\begin{array}{c} \uparrow \\ a^2 - 2ab + b^2 \end{array}$$

$$(x-3)^2$$

#33 $3x^2 - 24x - 27$

factor

$$\text{GCF} : 3$$

$$3(x^2 - 8x - 9)$$

$$3(x-9)(x+1)$$

$$m+n = -8$$

$$m \cdot n = -9$$

$$m = -9$$

$$n = 1$$

$$\#35 \quad -x^2 + 5x - 4$$

$$-1(x^2 - 5x + 4)$$

factor

$$m+n = -5$$

$$m \cdot n = 4$$

$$-1, -4$$

$$-1(x-1)(x-4)$$

#28
p. 235

$$12y^2 - 75$$

$$3(4y^2 - 25)$$

⋮

$$\#32 \quad 4n^2 - 20n + 24$$

$$\text{GCF: } 4$$

$$4(n^2 - 5n + 6)$$

$$4(n-2)(n-3)$$

$$m+n = -5$$

$$m \cdot n = 6$$

$$-3, -2$$

$$\#34 \quad 18b^2 + 24b - 10$$

$$2(9b^2 + 12b - 5)$$

$$m+n = 12$$

$$m \cdot n = -45$$

$$15, -3$$

$$\vdots$$