

Section 4.2 worksheet

5, 6, 7, 8

5a) $(x-1)^2 - 2(x-1) - 35$

Method One: expand out

$$(x-1)(x-1) - 2(x-1) - 35$$

$$x^2 - x - x + 1 - 2x + 2 - 35$$

$$x^2 - 4x - 32 = 0 \quad \text{now factor}$$

add/multiply

$$\begin{array}{l} \text{add} \Rightarrow -4 \\ \text{mult.} \Rightarrow -32 \\ \hline 4 \quad + -8 \end{array}$$

$$(x+4)(x-8)$$

Method Two: $(x-1)^2 - 2(x-1) - 35$

(Substitution)

let $m = (x-1)$

$$m^2 - 2m - 35$$

$$\begin{array}{l} \text{factor} \Rightarrow \text{add} : -2 \\ \text{mult} : -35 \\ \hline 5 \quad + -7 \end{array}$$

$$(m+5)(m-7)$$

$$(x-1+5)(x-1-7)$$

$$(x+4)(x-8)$$

BLM 4-5 Section 4.2 Extra Practice

1. a) $(x+4)(x-5)$ b) $3(x-3)(x-7)$

c) $-4(x+1)(x+2)$ d) $\frac{1}{2}(x+3)(x-4)$

2. a) $(2x-1)(7x+5)$ b) $(x+5)(3x-4)$

c) $(4x+3y)(x+y)$ d) $(2x-3)(3x-4)$

3. a) $4(3x+2y)(x-y)$ b) $3y(2x+5)(x+2)$

c) $10(7x-5y)(2x-5y)$ d) $7x(3x+y)(2x+3y)$

4. a) $(x-7y)(x+7y)$ b) $(5x-3)(5x+3)$

c) $\left(x+\frac{5}{2}y\right)\left(x-\frac{5}{2}y\right)$ or $\frac{1}{4}(2x+5y)(2x-5y)$

d) $16(x-3)$

5. a) $(x+4)(x-8)$ b) $(6x+7)(4x-3)$

c) $2(7x+4)(7x-3)$ d) $(2x^2+3)(x^2-3)$

6. a) $-3, 5$ b) $4, -8$ c) $3, 6$ d) $\pm\sqrt{5}$

7. a) $-\frac{1}{2}, \frac{4}{3}$ b) $5, -\frac{1}{7}$ c) $-\frac{1}{5}, 2$ d) $\frac{3}{2}, -6$

8. a) $\frac{13}{8}, -\frac{13}{8}$ b) $\frac{7}{3}, -\frac{7}{3}$ c) $\frac{1}{4}, -\frac{1}{4}$ d) $8, -10$

9. a) $-1, \frac{2}{3}$ b) $\frac{1}{2}, 4$ c) $-\frac{1}{3}, \frac{1}{2}$ d) $6, -\frac{7}{2}$

10. a) $-\frac{1}{3}$ b) $\frac{3}{2}$ c) $-\frac{5}{2}$ d) $\frac{4}{7}$