EXTRA PRACTICE — Exercises

Unit V – Second Degree Relations and Higher - Polynomials
Part C – Solving Equations and Inequalities by Factoring
Lesson 2 – Special Products - Common Factor

Find the indicated product for each of the following.

1. $3x\left(4xy^3 - 7x^2y - 3y\right)$
2. $^-7a^2\left(a^3 - ab\right)$
3. $a^5\left(a^2b + b^2a - 2\right)$
4. $^-5mn^2\left(6m^3n + 1\right)$
5. $3x(4x + 5)$
6. $^-7a\left(a^2 + 2b\right)$
7. $4f\left(gf^2 - bh\right)$
8. $4ab\left(^-2a + 3b\right)$
9. $17b^3\left(^-4b^2 - 11b^4 - 11b - 5b^2\right)$

Solve the following polynomial equations, knowing that each can be rewritten as a product of a monomial and some other polynomial.

10. $m^2 - 8m = 0$
11. $4y - y^2 = 0$
12. $14x^2 = 7x$
13. $\frac{2}{3}x^2 - \frac{1}{3}x = 0$
14. $4y^2 + 12y = 0$
15. $9x^2 = ^-5x$

Solve the following polynomial inequalities by finding the greatest common factor of the terms of each and rewriting the polynomial as a product of first degree factors related to zero. Show the solution set of each on a number line.

16. $27x^2 - 3x \geq 0$
17. $6x^2 + 3x < 0$
18. $3a - 18a^2 > 0$
19. $x^2 > x$
20. $35x < 7x^2$

EXTRA PRACTICE — Answer Key

Unit V – Second Degree Relations and Higher - Polynomials
Part C – Solving Equations and Inequalities by Factoring
Lesson 2 – Special Products - Common Factor

Find the indicated product for each of the following.

1. $12x^2y^3 - 21x^3y - 9xy$

2. $^-7a^5 + 7a^3b$

3. $a^7b + a^6b^2 - 2a^5$

4. $^-30m^4n^3 - 5mn^2$

5. $12x^2 + 15x$

6. $^-7a^3 - 14ab$

7. $4gf^3 - 4fbh$

8. $^-8a^2b + 12ab^2$

9. $^-187b^7 - 153b^5 - 187b^4$

Solve the following polynomial equations, knowing that each can be rewritten as a product of a monomial and some other polynomial.

10. $S = \{0, 8\}$

11. $S = \{0, 4\}$

12. $S = \left\{0, \frac{1}{2}\right\}$

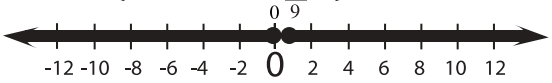
13. $S = \left\{0, \frac{1}{2}\right\}$

14. $S = \{0, ^-3\}$

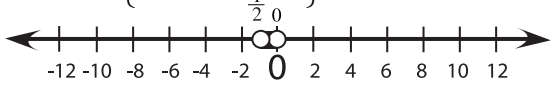
15. $S = \left\{0, \ ^-\frac{5}{9}\right\}$

Solve the following polynomial inequalities by finding the greatest common factor of the terms of each and rewriting the polynomial as a product of first degree factors related to zero. Show the solution set of each on a number line.

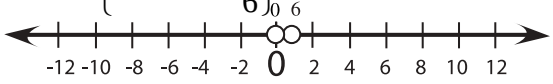
16. $S = \left\{x \mid x \le 0 \text{ or } x \ge \frac{1}{9}\right\}$



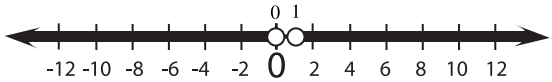
17. $S = \left\{x \mid \ ^-\frac{1}{2} < x < 0\right\}$



18. $S = \left\{a \mid 0 < a < \frac{1}{6}\right\}$



19. $S = \{x \mid x < 0 \text{ or } x > 1\}$



20. $S = \{x \mid x < 0 \text{ or } x > 5\}$