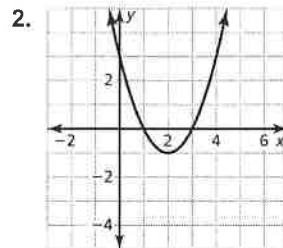
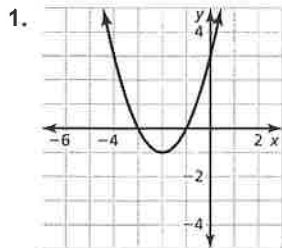


Answers

4.4 Cumulative Practice



4.4 Prerequisite Skills Practice

1. $3y(3 - xy^2)$ 2. $2rs(3r^2 - 4)$

4.4 Extra Practice

1. $5t^3(t + 8)(t - 8)$ 2. $2p^4(p - 7)(p - 6)$

3. $3x^2(x + 12)(x - 12)$ 4. $a^4(5a + 9)(a - 5)$

5. $j^7(2j - 3)(6j - 5)$ 6. $q^8(3q + 4)(5q + 6)$

7. $2p^6(p - 2)(p^2 + 2p + 4)$

8. $25k^5(k + 4)(k^2 - 4k + 16)$

9. $2w^4(3w - 2)(9w^2 + 6w + 4)$

10. $(x - 7)(x^2 + 5)$

11. $(m - 2)(m + 4)(m - 4)$

12. $(w - 3)(3w + 2)(3w - 2)$

13. $(s + 4)(5s + 1)(5s - 1)$

14. $(9g^2 + 25)(3g + 5)(3g - 5)$

15. $2t^2(t^3 + 5)(t^3 - 2)$ 16. $5v^2(v^4 - 3)(v^4 - 2)$

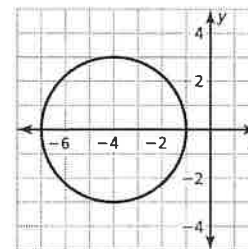
17. yes

18. no

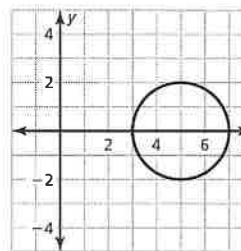
19. no

20. no

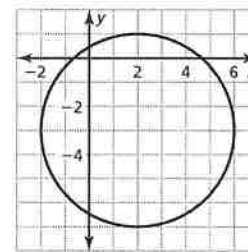
22. a. $(x - (-4))^2 + y^2 = 3^2$; $(h, k) = (-4, 0)$,
 $r = 3$



b. $(x - 5)^2 + y^2 = 2^2$; $(h, k) = (5, 0)$, $r = 2$



c. $(x - 2)^2 + (y - (-3))^2 = 4^2$;
 $(h, k) = (2, -3)$, $r = 4$



4.4 Reteach

1. $x(x - 4)(x + 3)$ 2. $9p^5(p + 2)(p - 2)$

3. $w^2(2w + 3)(w - 5)$

4. $(y + 10)(y^2 - 10y + 100)$

5. $(w - 5)(w^2 + 5w + 25)$

6. $(2x + 3)(4x^2 - 6x + 9)$

Answers

11. $(n^2 + 4)(n^2 + 7)$

12. $(y^2 + 4)(y + 2)(y - 2)$

4.4 Enrichment and Extension

1. 27 2. -18 3. 3

4. -4 5. -1 6. 6

7. $x^5 - y^5 = (x - y)(x^4 + x^3y + x^2y^2 + xy^3 + y^4)$

8. $a^7 + b^7 = (a + b)(a^6 - a^5b + a^4b^2 - a^3b^3 + a^2b^4 - ab^5 + b^6)$

9. $a^{14} - b^{14} = (a^7 + b^7)(a^7 - b^7) = (a + b)(a - b)(a^6 - a^5b + a^4b^2 - a^3b^3 + a^2b^4 - ab^5 + b^6)(a^6 + a^5b + a^4b^2 + a^3b^3 + a^2b^4 + ab^5 + b^6)$

10. $x^{10} - y^{10} = (x^5 + y^5)(x^5 - y^5) = (x + y)(x - y)(x^4 - x^3y + x^2y^2 - xy^3 + y^4)(x^4 + x^3y + x^2y^2 + xy^3 + y^4)$

4.4 Puzzle Time

QUARTERBACK

4.5 Cumulative Practice

1. $x = -3$ and $x = 9$ 2. $x = -8$ and $x = 4$

4.5 Prerequisite Skills Practice

1. $t = -\frac{1}{4}$ 2. $m = -2$

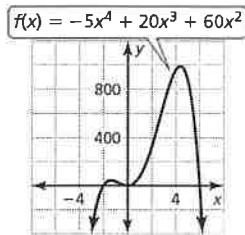
4.5 Extra Practice

1. $x = -\frac{3}{2}, x = 0$ 2. $h = 0, h = \pm\sqrt{2}$

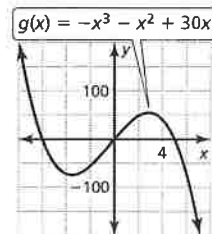
3. $q = \pm\frac{1}{2}$ 4. $w = \pm 3$

5. $p = -2, p = \pm 5$ 6. $y = \pm 3, y = 8$

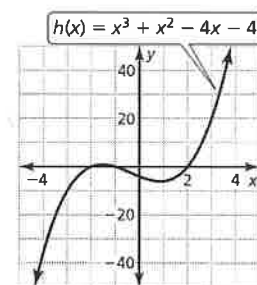
7. $x = -2, x = 0, x = 6$



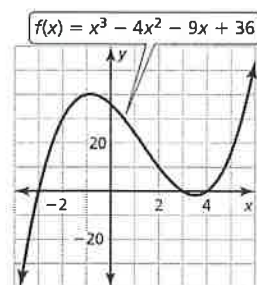
8. $x = -6, x = 0, x = 5$



9. $x = -2, x = -1, x = 2$



10. $x = -3, x = 3, x = 4$



11. $x = \frac{3}{2}$

12. $x = -2, x = 3, x = 4$

13. B

14. The factors of 2 include ± 2 ;

$$f(x) = 2x^3 + 5x^2 - 2x - 6;$$

Possible zeros: $\pm 1, \pm 2, \pm 3, \pm 6, \pm \frac{1}{2}, \pm \frac{3}{2}$