EXTRA PRACTICE — Exercises

Unit V – Second Degree Relations and Higher - Polynomials
Part B – Polynomials
Lesson 5 – Operations - Division

For each of the following, find the indicated quotient.

1. $\dfrac{^{-}20c^2t}{^{-}4t}$
2. $\dfrac{9r^2t}{^{-}3rt}$
3. $\dfrac{32a^4b}{^{-}4a^3b}$
4. $\dfrac{^{-}12a^5b^4c}{18a^2b^4c^6}$
5. $\dfrac{18a^3b^7}{^{-}9a^9b^2}$
6. $\dfrac{8x^6y^4z^3}{6x^2y^4z^7}$
7. $\dfrac{^{-}12a^4bc^2d^5}{^{-}8ac^{10}d^5}$
8. $\dfrac{^{-}15x^6y^4z}{10x^2y^8z}$
9. $\dfrac{x^{8a}y^{4b}}{x^{2a}y^b}$
10. $\dfrac{x^{5a+2b}y^{3a-5b}}{x^{a+b}y^{2a-3b}}$

For each of the following, find the indicated quotient in simplified form.

11. $\dfrac{10x^3-12x^2+2x}{2x}$
12. $\dfrac{5a^3b+2a^2b^2}{^{-}ab}$
13. $\dfrac{16x^3y^4-24x^2y^3}{8x^2y^2}$
14. $\dfrac{15a^2b^2+6a^4b^3-12a^2b}{3a^2b}$
15. $\dfrac{25m^4-20m^3-15m^2}{5m^2}$
16. $\dfrac{^{-}8cd^4+10c^5d^2-14c^3d^3}{2cd}$
17. $\dfrac{28x^3y^3+16x^2y^2-24xy^3}{4xy^2}$
18. $\dfrac{15c^n-10c^{n+3}-c^3}{c^n}$
19. $\dfrac{^{-}12cd^3+15c^4d^2-21cd}{3cd}$

Find each of the following indicated quotients by using the long division form of arithmetic. Write any non-zero remainder as a fraction with the divisor as denominator.

20. $\left(x^3-2x-x^2+8\right)\div(x+2)$
21. $\left(x^3+27\right)\div(x-3)$
22. $\left(6x^2+29x+25\right)\div(2x+5)$
23. $\left(x^3+5x^2+5x+16\right)\div\left(x^2+5\right)$
24. $\left(a^3+3a^2-2a-8\right)\div(a+2)$
25. $\left(4x^4-5x^2+2x+3\right)\div(2x-1)$
26. $\left(6a^3-5a^2-12a-4\right)\div(3a+2)$
27. $\left(2t^5-13t^3-10t^2-23t-4\right)\div(t-4)$

EXTRA PRACTICE — Answer Key

Unit V – Second Degree Relations and Higher - Polynomials
Part B – Polynomials
Lesson 5 – Operations - Division

For each of the following, find the indicated quotient.

1. $5c^2$ 2. ^-3r 3. ^-8a 4. $\frac{^-2a^3}{3c^5}$ 5. $\frac{^-2b^5}{a^6}$ 6. $\frac{4x^4}{3z^4}$

7. $\frac{3a^3b}{2c^8}$ 8. $\frac{^-3x^4}{2y^4}$ 9. $x^{6a}y^{3b}$ 10. $x^{4a+b}y^{a-2b}$

For each of the following, find the indicated quotient in simplified form.

11. $5x^2-6x+1$ 12. $^-5a^2-2ab$ 13. $2xy^2-3y$

14. $5b-2a^2b^2-4$ 15. $5m^2-4m-3$ 16. $^-4d^3+5c^4d-7c^2d^2$

17. $7x^2y+4x-6y$ 18. $15-10c^3-c^{3-n}$ 19. $^-4d^2+5c^3d-7$

Find each of the following indicated quotients by using the long division form of arithmetic. Write any non-zero remainder as a fraction with the divisor as denominator.

20. $x^2+x-4+\frac{16}{x+2}$ 21. $x^2+3x+9+\frac{54}{x-3}$

22. $3x+7+\frac{^-10}{2x+5}$ 23. $x+5+\frac{2x+1}{x^2+3}$

24. a^2+a-4 25. $2x^3+x^2-2x+\frac{3}{2x-1}$

26. $2a^2-3a-2$ 27. $2t^4+8t^3+19t^2+66t+241+\frac{960}{t-4}$