NAME _____ DATE _____ PERIOD _____

5-2 Practice

Dividing Polynomials

Simplify.

1. $\frac{15r^{10} - 5r^8 + 40r^2}{5r^4}$ **$3r^6 - r^4 + \frac{8}{r^2}$**

2. $\frac{6k^2m - 12k^3m^2 + 9m^3}{2km^2}$ **$\frac{3k}{m} - 6k^2 + \frac{9m}{2k}$**

3. $(-30x^3y + 12x^2y^2 - 18x^2y) \div (-6x^2y)$ **$5x - 2y + 3$**

4. $(-6w^3z^4 - 3w^2z^5 + 4w + 5z) \div (2w^2z)$ **$-3wz^3 - \frac{3z^4}{2} + \frac{2}{wz} + \frac{5}{2w^2}$**

5. $(4a^3 - 8a^2 + a^2)(4a)^{-1}$ **$a^2 - 2a + \frac{a}{4}$**

6. $(28d^3k^2 + d^2k^2 - 4dk^2)(4dk^2)^{-1}$ **$7d^2 + \frac{d}{4} - 1$**

7. $\frac{f^2 + 7f + 10}{f + 2}$ **$f + 5$**

8. $\frac{2x^2 + 3x - 14}{x - 2}$ **$2x + 7$**

9. $(a^3 - 64) \div (a - 4)$ **$a^2 + 4a + 16$**

10. $(b^3 + 27) \div (b + 3)$ **$b^2 - 3b + 9$**

11. $\frac{2x^3 + 6x + 152}{x + 4}$ **$2x^2 - 8x + 38$**

12. $\frac{2x^3 + 4x - 6}{x + 3}$ **$2x^2 - 6x + 22 - \frac{72}{x + 3}$**

13. $(3w^3 + 7w^2 - 4w + 3) \div (w + 3)$ **$3w^2 - 2w + 2 - \frac{3}{w + 3}$**

14. $(6y^4 + 15y^3 - 28y^2 - 6) \div (y + 2)$ **$6y^3 + 3y^2 - 34y + \frac{62}{y + 2}$**

15. $(x^4 - 3x^3 - 11x^2 + 3x + 10) \div (x - 5)$ **$x^3 + 2x^2 - x - 2$**

16. $(3m^5 + m - 1) \div (m + 1)$ **$3m^4 - 3m^3 + 3m^2 - 3m + 4 - \frac{5}{m + 1}$**

17. $(x^4 - 3x^3 + 5x - 6)(x + 2)^{-1}$ **$x^3 - 5x^2 + 10x - 15 + \frac{24}{x + 2}$**

18. $(6y^2 - 5y - 15)(2y + 3)^{-1}$ **$3y - 7 + \frac{6}{2y + 3}$**

19. $\frac{4x^2 - 2x + 6}{2x - 3}$ **$2x + 2 + \frac{12}{2x - 3}$**

20. $\frac{6x^2 - x - 7}{3x + 1}$ **$2x - 1 - \frac{6}{3x} + 1$**

21. $(2r^3 + 5r^2 - 2r - 15) \div (2r - 3)$ **$r^2 + 4r + 5$**

22. $(6t^3 + 5t^2 - 2t + 1) \div (3t + 1)$ **$2t^2 + t - 1 + \frac{2}{3t + 1}$**

23. $\frac{4p^4 - 17p^2 + 14p - 3}{2p - 3}$ **$2p^3 + 3p^2 - 4p + 1$**

24. $\frac{2h^4 - h^3 + h^2 + h - 3}{h^2 - 1}$ **$2h^2 - h + 3$**

25. **GEOMETRY** The area of a rectangle is $2x^2 - 11x + 15$ square feet. The length of the rectangle is $2x - 5$ feet. What is the width of the rectangle? **$x - 3$ ft**

26. **GEOMETRY** The area of a triangle is $15x^4 + 3x^3 + 4x^2 - x - 3$ square meters. The length of the base of the triangle is $6x^2 - 2$ meters. What is the height of the triangle? **$5x^2 + x + 3$ m**