11-3

Practice   *Form K*

Dividing Polynomials

Divide.

1. $(y^2 - 2y) \div y$

2. $(a^4 + 7a^3 - 3a^2) \div a^2$

3. $(5g^5 - 15g^3) \div 5g^3$

4. $(6t^2 + 8t + 10) \div 2t$

5. $(2q^5 - 12q^3 + 9q^2) \div 6q^2$

6. $(9k^4 - 12k^3) \div 2k^3$

7. $(-18w^4 + 48w^3 - 24w^2) \div 6w^2$

8. $(-4n^6 - 52n^4 + 36n^2) \div (-4n^3)$

9. $(n^2 + 9n + 20) \div (n + 4)$

10. $(y^2 + 6y + 5) \div (y + 5)$

11. $(h^2 - 5h - 14) \div (h + 2)$

12. $(3d^2 - 12d - 96) \div (d - 8)$

13. $(2m^2 - 5m - 3) \div (2m + 1)$

14. $(6r^2 + 43r - 40) \div (6r - 5)$

15. $(5c^2 - 125) \div (c + 5)$

16. $(k^2 - 36) \div (k - 6)$

17. Find the height of a trapezoid if the area of the trapezoid is $4x^3 - 2x^2$, the length of one base is $3x + 1$, and the length of the other base is $x - 3$.

(*Hint* : The height of a trapezoid equals $\dfrac{2 \bullet \text{Area}}{\text{Base}_1 + \text{Base}_2}$)

11-3 **Practice** (continued)

Dividing Polynomials

Divide.

18. $(9x^2 + 59x - 28) \div (9x - 4)$

19. $(11v^2 + 21v - 2) \div (v + 2)$

20. $(2p^2 + 3p - 44) \div (p - 4)$

21. $(10j^2 + 93j - 70) \div (10j - 7)$

22. $(6a^2 + 7a - 3) \div (3a - 1)$

23. $(10h^2 - 15h + 5) \div (2h - 1)$

24. The area of a rectangle is $x^2 - 2x - 15$ and the length of the rectangle is to $x + 3$.
   a. Find the width of the rectangle.

   b. Find the area of the rectangle if the width is 6 ft.

25. Reasoning If $x - 2$ is a factor of $x^2 + 3x + k$, what is the value of k?

26. Open-Ended Write a monomial and a trinomial such that the monomial is a factor of the trinomial. Explain how you know that the monomial is a factor of the trinomial.