5-3 Skills Practice

Dividing Polynomials

Simplify.

1. $\dfrac{10c + 6}{2}$ $5c+3$

2. $\dfrac{12x + 20}{4}$ $3x+5$

3. $\dfrac{15y^3 + 6y^2 + 3y}{3y}$ $5y^2+2y+1$

4. $\dfrac{12x^2 - 4x - 8}{4x}$ $3x-1-\frac{2}{x}$

5. $(15q^6 + 5q^2)(5q^4)^{-1}$

$3q^2 + \frac{1}{q^2}$

6. $(4f^5 - 6f^4 + 12f^3 - 8f^2)(4f^2)^{-1}$

$f^3 - \frac{3f^2}{2} + 3f - 2$

7. $(6j^2k - 9jk^2) \div 3jk$

$2j - 3k$

8. $(4a^2h^2 - 8a^3h + 3a^4) \div (2a^2)$

$2h^2 - 4ah + \frac{3a^2}{2}$

9. $(n^2 + 7n + 10) \div (n + 5)$

$n+2$

10. $(d^2 + 4d + 3) \div (d + 1)$

$d+3$

11. $(2s^2 + 13s + 15) \div (s + 5)$

$2s+3$

12. $(6y^2 + y - 2)(2y - 1)^{-1}$

$3y+2$

13. $(4g^2 - 9) \div (2g + 3)$

$2g-3$

14. $(2x^2 - 5x - 4) \div (x - 3)$

$2x+1 - \frac{1}{x-3}$

15. $\dfrac{u^2 + 5u - 12}{u - 3}$

$u+8 + \frac{12}{u-3}$

16. $\dfrac{2x^2 - 5x - 4}{x - 3}$

$2x+1 - \frac{1}{x-3}$

17. $(3v^2 - 7v - 10)(v - 4)^{-1}$

$3v+5 + \frac{10}{v-4}$

18. $(3t^4 + 4t^3 - 32t^2 - 5t - 20)(t + 4)^{-1}$

$3t^3 - 8t^2 - 5$

19. $\dfrac{y^3 - y^2 - 6}{y + 2}$

$y^2 - 3y+6 - \frac{18}{y+2}$

20. $\dfrac{2x^3 - x^2 - 19x + 15}{x - 3}$

$2x^2 + 5x - 4 + \frac{3}{x-3}$

21. $(4p^3 - 3p^2 + 2p) \div (p - 1)$

$4p^2 + p + 3 + \frac{3}{p-1}$

22. $(3c^4 + 6c^3 - 2c + 4)(c + 2)^{-1}$

$3c^3 - 2 + \frac{8}{c+2}$

23. **GEOMETRY** The area of a rectangle is $x^3 + 8x^2 + 13x - 12$ square units. The width of the rectangle is $x + 4$ units. What is the length of the rectangle?

$x^2 + 4x - 3$ units

Glencoe Algebra 2