

Homework

Section 5.6
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11. Multiply or divide as indicated.

a) $(2r)(-6r)$

b) $(-16n^2) \div (-8n)$

c) $(-5g)(7g)$

d) $\frac{40k}{-10k}$

e) $(9h)(3h)$

f) $\frac{48p^2}{12p}$

g) $18u^2 \div (-3u^2)$

h) $\frac{-24d^2}{-8d^2}$

12. Use any strategy to determine each product.

a) $2x(x + 6)$

b) $3t(5t + 2)$

c) $-2w(3w - 5)$

d) $-x(2 + 8x)$

e) $3g(-5 - g)$

f) $(4 + 3y)(2y)$

g) $(-7s - 1)(-y)$

h) $(-3 + 6r)(2r)$

- 13.** A student thinks that the product $2x(x + 1)$ is $2x^2 + 1$. Choose a model. Use the model to explain how to get the correct answer.

14. Here is a student's solution for this question:
Multiply: $(-2d + 9)(-3d)$

$$\begin{aligned} &(-2d + 9)(-3d) \\ &= (-2d)(-3d) - (9)(-3d) \\ &= -6d^2 - (27d) \\ &= -6d^2 - 27d \end{aligned}$$

Identify the errors in the solution, then write the correct solution.

16. Use any strategy to determine each quotient.

a) $\frac{10x^2 + 4x}{2x}$

b) $(6x^2 + 4x) \div x$

c) $\frac{6y + 3y^2}{3y}$

d) $\frac{40x^2 - 16x}{8x}$

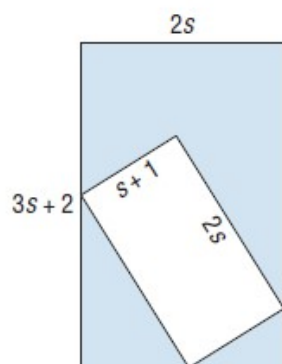
e) $\frac{15g - 10g^2}{5g}$

f) $\frac{-12k - 24k^2}{3k}$

g) $(24h^2 + 36h) \div (-4h)$

h) $(-8m^2 + 18m) \div (-2m)$

19. a) Write a polynomial to represent the area of each rectangle in the diagram below.



- b) Determine a polynomial for the shaded area. Justify your strategy.
- c) Determine the area in part b when $s = 2.5$ cm.

20. Determine each product.

a) $3m(2n + 4)$

b) $(-5 + 3f)(-2g)$

c) $7m(-6p + 7m)$

d) $(-8h - 3k)(4k)$

e) $(-2t + 3r)(4t)$

f) $(-g)(8h - 5g)$

21. Determine each quotient.

a) $(12x^2 + 6xy) \div 3x$

b) $\frac{12gh + 6g}{2g}$

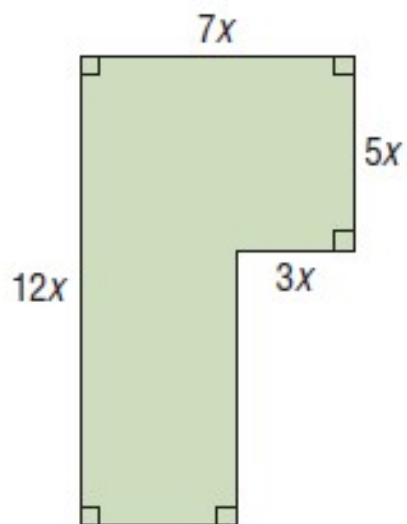
c) $(-27p^2 + 36pq) \div 9p$

d) $\frac{40rs - 35r}{-5r}$

e) $\frac{14n^2 + 42np}{-7n}$

Take It Further

22. Determine a polynomial for the area of this shape. Justify your answer.



25. Simplify:

$$[(2x^2 - 8x + 3xy + 5) + (24x^2 - 16x - 12xy)] \div 4x$$

16. Use any strategy to determine each quotient.

a) $\frac{10x^2 + 4x}{2x}$

b) $(6x^2 + 4x) \div x$

c) $\frac{6y + 3y^2}{3y}$

d) $\frac{40x^2 - 16x}{8x}$

e) $\frac{15g - 10g^2}{5g}$

f) $\frac{-12k - 24k^2}{3k}$

g) $(24h^2 + 36h) \div (-4h)$

h) $(-8m^2 + 18m) \div (-2m)$