

MathLinks 9 Practice and Homework Book

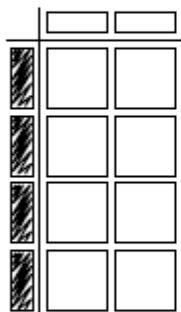
Chapter 7 Answers

7 Get Ready

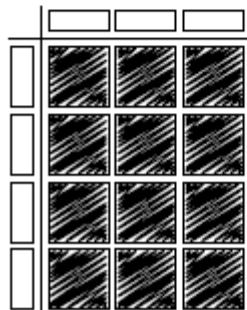
- a) T; 2 b) B; 2 c) B; 1 d) M; 2
- Examples: $3x^2 + 2y - 4x$, $3x + 2xy - 4y$
- b) and d)
- a) $3x^2 - 6x + 5$ b) $3p^2 - p + 2$
- a) $7x - 10$ b) $2t^2 + 3t + 1$
- a) -7 b) $y^2 + 5y - 2$
- a) $3x^2 + 8x - 10$ b) $-y - 9$

7.1 Multiplying and Dividing Monomials

- a) product; $-x$ -tiles
b) division; dividend; x -tiles
c) numerical coefficients; exponent rules
- Example: To divide monomials algebraically, you can divide the numerical coefficients and then use the exponent rules to divide the variables.
- Orientation of models may vary.
a) $-8x^2$

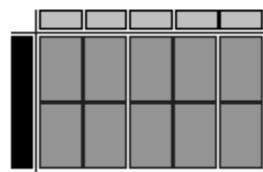


b) $12x^2$



4. a) $6x^2 \div (-3x) = -2x$ b) $9xy \div 3x = 3y$

5. a) $2x$



b) $3x$



6. a) $24a^2$ b) $12x^2$ c) $-20x$ d) 4

7. a) $(12x)(4x)$; $48x^2$ b) $\frac{(3h)(4b)}{2}$; $6bh$

8. 12 m

9. a) $9x$ b) $4x$

7.2 Multiplying Polynomials by Monomials

- a) area b) $(2x)(3x + 4) = 6x^2 + 8x$
- $(-2x)(5x + 6) = (-2x)(5x) + (-2x)(6)$
 $= -10x^2 - 12x$
- Order of factors may vary. Examples:
a) $(2y)(5y + 2)$ b) $(4.5t + 2.3)(3.1t)$
c) $(x)(x + 1)$ d) $(2x - 2)(-3x)$
- Orientation of rectangles may vary. Examples:

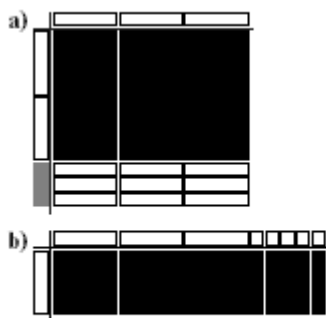
a)

	4.6g	5
2.3g		

b)

	5	7.2f
2.1f		

5. Orientation of tiles may vary. Examples:



6. a) $(1.2z)(-4z) + (1.2z)(2y)$

b) $(-2e)(-e) + (-3f)(-e) + (4)(-e)$

7. a) $-49v^2 - 49vx$

b) $28x - 12xy$

c) $-0.1ab + 8b^2 - 0.7bc$

d) $\frac{3a^2}{2} - a$ or $\frac{3}{2a^2} - a$

8. Example:

a) $(6w - 4) \text{ m}$ b) $(2w^2 - 2w) \text{ m}^2$

9. a) $48.3 + 2m$, where m is the cost of the catch of the day

b) $(0.15)(48.3 + 2m)$

c) \$89.93

7.3 Dividing Polynomials by Monomials

1. numerical coefficients; variables; quotient *or* divisor; divisor *or* quotient; product; dividend

2. dividend; quotient; model

3. $(6x^2 + 8x) \div 2x$; $3x + 4$

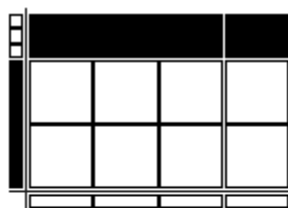
4. $4x^2$; $6x$; $2x$; 3

5. $3x - 2$



6. $2x - 3$

Orientation of tiles may vary. Example:



7. a) $-6y + 1.8$ b) $-0.5s + t - 1.5$ or $-\frac{s}{2} + t - \frac{3}{2}$
c) $-0.9d^2 + 0.8d - 0.4$ d) $y + z + 1$

8. $7.5 \div (30x + 22.5)$

9. $(3.6x^2 + 7.2x) \text{ cm}^2$

10. $5t \text{ cm}$

11. a) $40\pi \text{ m}^2$ b) 5 m c) 4 m

7 Chapter Link

1. a) $768y + 216$ units b) $32y + 9$ units
c) $512y^2 + 288y + 40.5$ units³ d) 20 bundles

e) $12\,800y^2 + 7200y + 1012.5$ units³

2. a) $(4374d^2 + 1458dp + 972d)$ units²

b) $(81d^2 + 27dp + 18d)$ units²

3. Example: A square carpet with side length $7.6a + 8.2 \text{ m}$ is cut into 4 square carpets of equal size. What are the side lengths of the smaller carpets?

Answer: $(7.6a + 8.2) \div 4 = (1.9a + 2.05) \text{ m}$

7 Vocabulary Link

Across

5. distributive property

Down

1. polynomial

2. monomial

3. spider map

4. binomial

Chapters 1–7 Review

1. a) $5x$; -20 b) $5x + y$; $2x^2 - xy$

c) $2x^2 - xy$; $7d^2 - 3cd - 5c + 6$ d) c and d

e) -20 ; $5 + c + d$; $7d^2 - 3cd - 5c + 6$ f) 5 ; none

2. a) $y = 2x + 3$ b) $y = \frac{-3}{4}x$ or $-0.75x$ c) $y = 3$

3. a) $11x^3$ b) $15j^2 - 18j$

4. a) $-3x - 2y$ b) $32t + 16$

5. Example:

a)

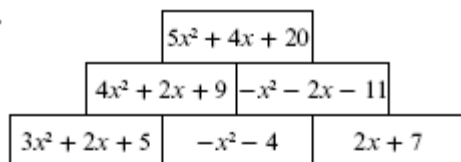


b) 4 c) 4 d) 90° ; $\frac{1}{4}$

6. a) 58.27 b) $-\frac{2}{15}$

7. a) 24 b) 3 145 728 c) 50 331 648

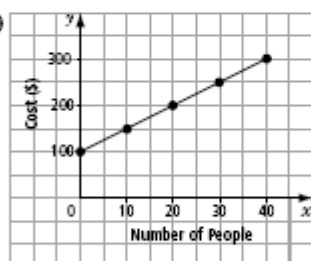
8.

9. a) 1.3 m b) 8.62 cm c) $\frac{1}{3}$ m

10. a)

Number of People	Cost (\$)
0	100
10	150
20	200
30	250
40	300

b)



c) \$225 d) 80

e) Example: $C = 5n + 100$, where C represents the total cost in dollars and n represents the number of people.

11.

