

Must-Know Math: 25 Activities to Build Key Skills in 6th Grade

Answer Key

Page 3

(1) 380; (2) 2,300; (3) 5.5; (4) 6; (5) 9; (6) 50; (7) 65.09;
 (8) 25.8; (9) 10; (10) 68.4; (11) 4; (12) 40; (13) 702
 Zero's message: to a great start

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	A	2	5		B	1	C	7		
D	1	6		E	8		F	2	G	4
	8		H	4	8	I	6		9	
	J	7	7		K	3	6			
L	7		M	5	N	2	0		O	5
P	6	8		1		R	3	4		
	S	1	9		T	5	7			

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(1) \$53,743,249; (2) \$54,000,000; (3) $(1 \times 10^7) + (8 \times 10^6) + (6 \times 10^5) + (4 \times 10^4) + (2 \times 10^3) + (3 \times 10^2) + (1 \times 10^1) + (8 \times 10^0)$;
 (4) \$126,000,000; (5) $(8 \times 10^7) + (6 \times 10^6) + (6 \times 10^5)$

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Answers from top to bottom, left to right: 4.09, loon;
 0.75, dog and pony; $\frac{3}{10}$, elephant; $\frac{21}{25}$, bear; $\frac{1}{5}$, clam;
 $9\frac{1}{25}$, turkey; 8.9, crocodile; 2.005, hawk; $1\frac{1}{4}$, ants

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(1) 3.5; (2) 0.62; (3) $\frac{5}{6}$; (4) 0.45; (5) $\frac{2}{3}$; (6) 125%;
 (7) 17%, $\frac{17}{100}$; (8) 4.2, 420%; (9) $\frac{7}{20}$, 0.35; (10) 2.04, $\frac{12}{5}$
 Letters: WNAEDR STNLMECE. Answer: Andrew Clements

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Black Bean Salad to serve 12, from top to bottom:
 $5\frac{1}{2}$; $1\frac{1}{3}$; 1; $1\frac{1}{2}$; 2; $1\frac{1}{2}$; 1; $\frac{1}{2}$; 4; 6
 Chili to serve 12, from top to bottom: $\frac{3}{4}$; 6; 42; 6; 3; $3\frac{3}{4}$;
 3; $\frac{3}{4}$; $\frac{3}{8}$; $\frac{1}{2}$; $1\frac{1}{2}$; $2\frac{1}{4}$

Page 9

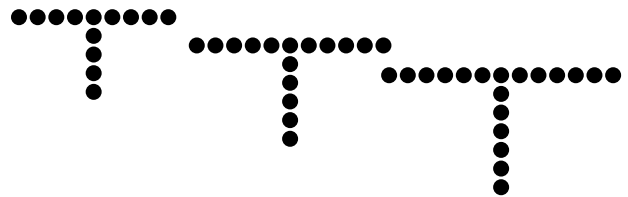
(1) $1\frac{2}{5}$; (2) $\frac{3}{5}$; (3) $2\frac{1}{2}$; (4) $3\frac{3}{10}$; (5) $\frac{9}{20}$; (6) 2; (7) $22\frac{1}{2}$;
 (8) $1\frac{1}{2}$; (9) 10; (10) $\frac{19}{24}$; (11) $\frac{1}{3}$; (12) 3; (13) $1\frac{1}{5}$; (14) 1;
 (15) $1\frac{5}{9}$
 The Rule: The denominator of a fraction can't be zero!

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(1) 5 minutes; (2) 8:37 a.m.; (3) 12:13 p.m.;
 (4) 3 minutes 51 seconds; (5) 42 minutes; (6) 1 hour 5 minutes longer; (7) 2:04 p.m.; (8) 5:25 p.m.

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(1) 575, 685, 795; (2) ML, JI, GF; (3) 221, 445, 893;
 (4) Any 6-sided figure, any 7-sided figure, any 8-sided figure;
 (5) 132, 105, 78;
 (6)



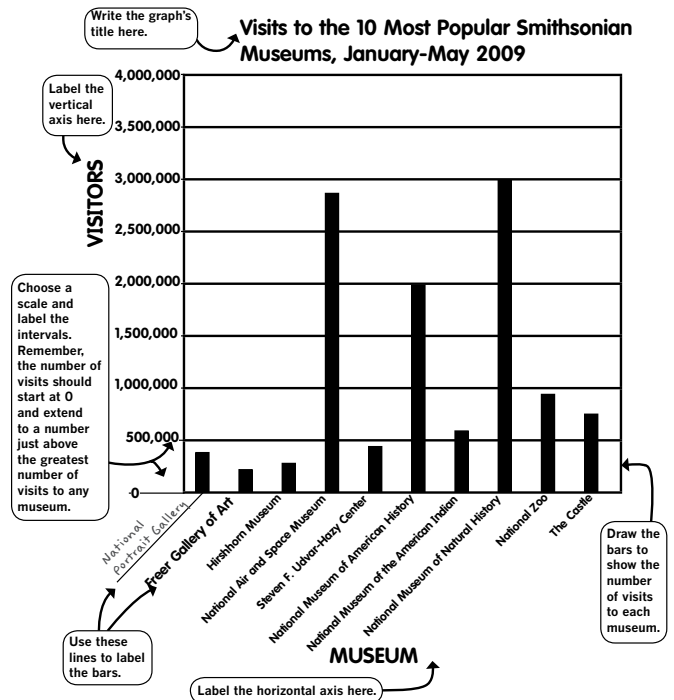
(7) $14x-19$, $17x-23$; $20x-27$

Pages 12-13

(1) 16 oz. from top to bottom: \$4.75, \$4.78, \$4.25, \$1.50;
 24 oz. from top to bottom: \$6.13, \$6.13, \$5.50 and \$6.50,
 \$1.75 (2) 78 smoothies; (3) a. 146, 151, 141, 155;
 b. 148; c. 124, 143, 155, 142, 155, 157, 164 (4) 6 cups;
 (5) a. 3 cups; b. 5 cups

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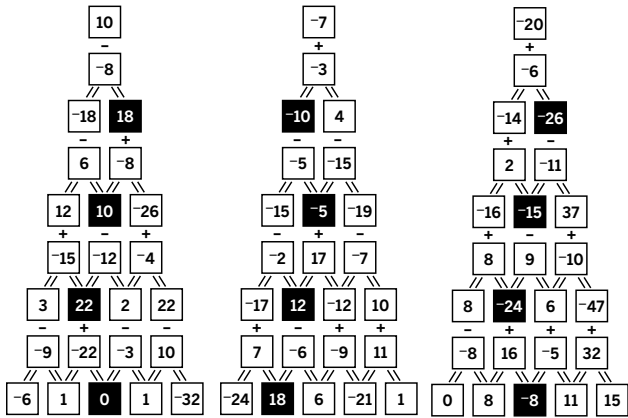
Projected visits from top to bottom: 1,082,400; 600,000;
 691,200; 6,480,000; 1,152,000; 4,800,000; 1,365,600;
 7,200,000; 2,352,000; 1,610,400



Pages 16-17

(1) **b.** week 3; (2) **b.** weeks 1 and 2; (3) **b.** Victoria;
 (4) **c.** Victoria: "OK, we both got off to a rocky start,
 but we did well over all."; (5) **a.** Damon: 25; Jonathan: 0;
 (6) **a.** Day 8; (7) **a.** Damon; (8) **c.** Jonathan: "If I continue
 what I've been doing, I should be up to an hour a day in
 no time."

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Answer from top to bottom:

36, identity; 12, commutative; 0, zero;
 5, distributive; 5, 3, associative

Commutative Property: $b \times c = c \times b$

Associative Property: $5(2 \times 8) = (5 \times 2) 8$

Distributive Property: $5(y + 3) = 5y + 15$

Zero Property: $17 \times 0 = 0$

Identity Property: $-463 \times 1 = -463$

$$1 \times 36 = 36$$

$$12 \times 4 = 4 \times 12$$

$$52.04 \times 0 = 0$$

$$8(c + 5) = 8c + 5$$

$$6(5 \times 3) = (6 \times 5) \times 3$$

Identity Property

Commutative Property

Zero Property

Distributive Property

Associative Property

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(1) 24; (2) 20; (3) 13; (4) 144; (5) 4; (6) 115;

(7) 30; (8) 76; (9) 520; (10) 44; (11) 48;

(12) 1. Bonus: $7 + (26-23)2 = 16$

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(1) 3,529; (2) 354; (3) 13; (4) 72; (5) 65,193;

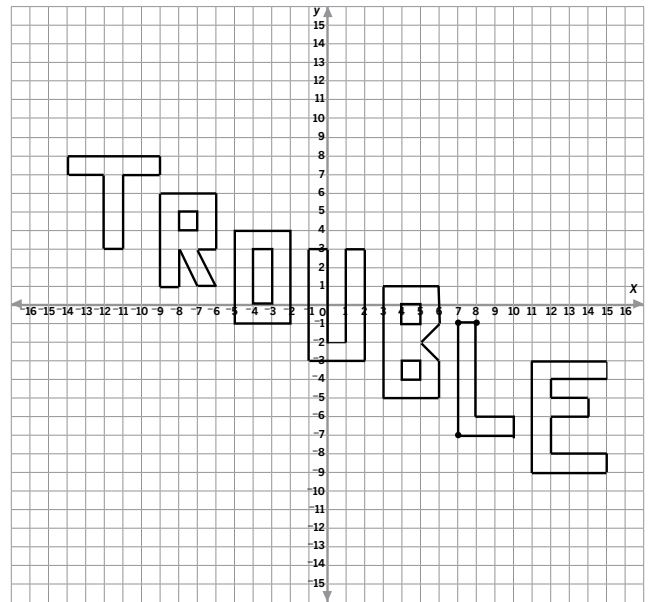
(6) 42,380; (7) 14; (8) 49; (9) 5,718; (10) 200;

(11) 65; (12) 5,103; (13) 328; (14) 97,531; (15) 21,845;

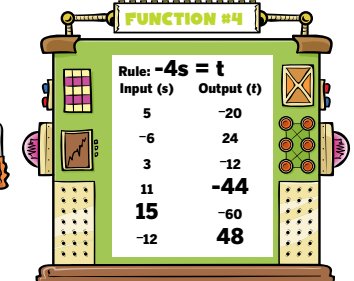
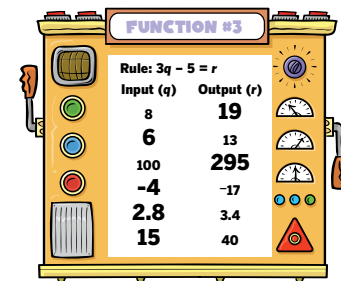
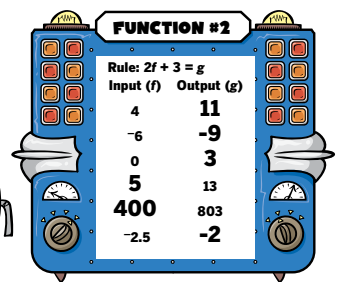
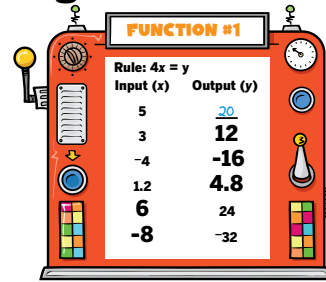
(16) 62; (17) 90; (18) 4,592; (19) 238; (20) 16

Answer to joke: It's against the law to bury the living!

Pages 22-23



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(1) 2 yards; (2) 85° Fahrenheit; (3) 250 miles;

(4) 64 ounces; (5) $\frac{1}{2}$ kilogram; (6) 440 pounds;

(7) 192 inches; (8) 26 miles

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(1) 175 kids; (2) 36 minutes; (3) 160 computers;

(4) 102 free throws; (5) 25 minutes; (6) \$77

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Bella's Bargains Unit Rate from top to bottom (better deal is underlined): \$.40/apple, \$.30/oz, \$1.60/bottle, \$1.19/half-gallon, \$1.99/lb, \$1.07/sq ft

Dottie's Deals Unit Rate from top to bottom (better deal is underlined): \$.30/apple, \$.25/oz, \$1.50/bottle, \$1.79/half-gallon, \$2.29/lb, \$.05/sq ft

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(1) a. $\frac{1}{6}$; b. $\frac{1}{12}$; c. 0; d. $\frac{1}{4}$; e. T; (2) a. $\frac{1}{36}$; b. $\frac{1}{16}$;

(3) a. $\frac{1}{66}$; b. $\frac{1}{22}$. Bonus: Answers will vary.

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Left box: area: 10 sq units, perimeter: 22 units; *Right box:* area: 10 sq units, perimeter: 14 units. *Rectangles (order will vary):* 24x1 units, perimeter: 50 units; 12x2 units, perimeter: 28 units; 8x3 units, perimeter: 22 units; 6x4 units, perimeter: 20 units.

Written answer: (Guesses will vary.) The smaller the difference in the rectangle's dimensions, the smaller the perimeter.

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(1) <t; (2) <p; (3) <o; (4) <u; (5) <z; (6) <x;

(7) <q; (8) <w; (9) <r; (10) <q.

Complementary pair: 29° and 61°;

supplementary pair: 96° and 84°.

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(1) less; (2) there; (3) of; (4) the; (5) What;

(6) you; (7) more; (8) is; (9) see; (10) Darkness.

Answer to riddle: What is there more of the less you see?

Darkness. Bonus: Acute. The hour hand would be halfway between 3 and 4.