Lesson 83 • Probability of Dependent Events

Power Up

– ***Facts***

– ***Mental Math***

– ***Problem Solving***

New Concepts

– ***Examples***

– ***Practice Set***

Written Practice

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Facts Simplify.

$2x + x$ $3x$	$2x - x$ x	$(2x)(x)$ $2x^2$	$\frac{2x}{x} = 2$	$\frac{x^2}{x} = x$
$8xy + 2xy$ $10xy$	$8xy - 2xy$ $6xy$	$(8xy)(2xy)$ $16x^2y^2$	$\frac{8xy}{2xy} = 4$	$\frac{8x^2y}{2y} = 4x^2$
$x + y + x$ $2x + y$	$x + y - x$ y	$(x)(y)(-x)$ $-x^2y$	$\frac{xy}{x} = y$	$\frac{x^2y^3}{x^2y} = y^2$
$4x + x + 2$ $5x + 2$	$4x - x - 2$ $3x - 2$	$(4x)(-x)(-2)$ $8x^2$	$\frac{-4x}{2x} = -2$	$\frac{4x^3}{2x^2} = 2x$

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Written Practice

1. 255
2. 60 miles; 4 hours; 15 miles per hour; Greg spent more time riding at 10 mph, then he did at 30 mph, so his average speed is closer to 10 mph than to 30 mph.
3. 24%
4. a. 90°
   b. 5π in. or about 15.7 inches
5. 13 cm^2
6. a. 27 ft^3
   b. 1 yd^3
7. x = 175 m, y = 300 m, shorter to longer = $\frac{2}{3}$

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Written Practice *continued*

8. $x \geq 0$;

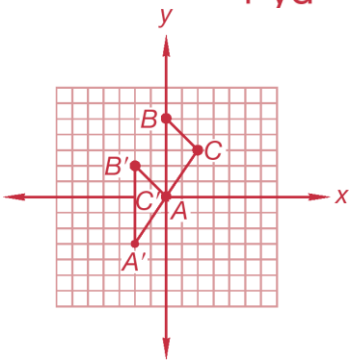
9. yes; Possible answer: The side lengths fit the Pythagorean Theorem.

$$1^2 + 2^2 = (\sqrt{5})^2$$
$$1 + 4 = 5$$
$$5 = 5$$

10. A

11. $4840 \text{ yd}^2 \cdot \frac{3 \text{ ft}}{1 \text{ yd}} \cdot \frac{3 \text{ ft}}{1 \text{ yd}} = 43{,}560 \text{ ft}^2$

12.



13. trapezoid; 15 cm^2

14. $12\sqrt{3}$

15. 25

16. y

17. 6

18. 254.34 cm^3

19. B

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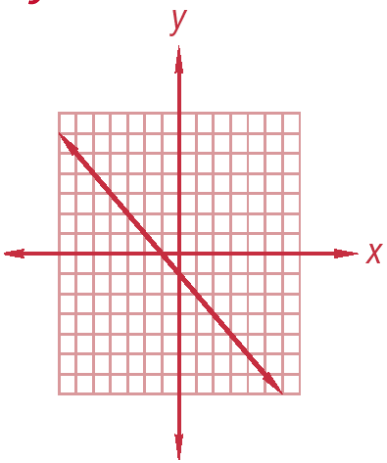
Written Practice *continued*

20. $y = -x - 1$



The graphs are identical because the equations are equivalent.

21. 260°

22. $x = 20$

23. $x = 1$

24. $3x + 3$

25. a. about 6 million

b. C

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