

## ACE Assignment Guide for Problem 3.2



**Core** 15–27, 36–48

**Other** 49, 50, 63, and unassigned choices from previous problems

**Adapted** For suggestions about adapting ACE exercises, see the CMP *Special Needs Handbook*.

**Connecting to Prior Units** 51, 57–62: *Moving Straight Ahead*; 52: *Say It With Symbols*; 53, 56: *Filling and Wrapping*; 54, 55: *Frogs, Fleas, and Painted Cubes*

## Answers to Problem 3.2

- A. 1.** Jared: Yes; Jared used properties of equality: he subtracted  $12x$  from both sides of the equation in the first step, which yielded an equivalent equation. Then he divided both sides of the equation by 3, continuing to maintain an equivalent equation. Dividing the right side  $-12x + 9$  by 3 is the same as multiplying it by  $\frac{1}{3}$ , so  $(-12x + 9) \div 3 = (-12x + 9)\frac{1}{3} = -4x + 3$ .

Molly: No; she needed to divide both sides of the equation by 3. When she divided  $9 - 12x$  by 3, she did not use the Distributive Property and forgot to divide  $-12x$  by 3.

Ali: Yes; as in A, he maintained equivalent equations throughout his work. First he divided both sides of the equation by 3 and then subtracted  $4x$  from either side.

Mia: No;  $2.4x - 3$  is not equivalent to  $3 - 4x$ .

2. Two equations are equivalent if they have the same solutions.

**B. 1.**  $y = x - 4$ .

2.  $y = -2x + 9$ .

3.  $y = -2x - 3$ .

4.  $y = \frac{1}{2}x - 2$ .

5.  $y = -x + 2.5$ .

6.  $y = -\frac{1}{2}x + 60$ .

- C.** The slope is  $-\frac{a}{b}$ . The y-intercept is  $\frac{c}{b}$  and the x-intercept is  $\frac{c}{a}$ . Since  $by = -ax + c$ ,  $y = -\frac{a}{b}x + \frac{c}{b}$ .

- D.** Answers will vary, as there are multiple equivalent forms for all equations in standard form. The answers given below use the smallest (in absolute value) whole-number coefficients.

1.  $3x + y = 5$

2.  $8x - 12y = -3$

3.  $x - 2y = -3$

4.  $4x - 2y = 1$

5.  $x - 4y = -12$

6.  $2x - y = 6$