

## EXTRA PRACTICE — Exercises

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### Unit III – First Degree Relations with Two Placeholders Part C – Finding Relations For Given Solution Sets Lesson 4 – Special Cases - Given Parallel or Perpendicular Lines

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Find a relation for each of the following in the form  $y = mx + b$  which has a solution set line parallel to the line for the given equation, and contains the given point (solution).

1. It is parallel to the line for  $4x + 3y = 15$ .

It contains the point  $(5, 1)$ .

2. It is parallel to the line for  $3x - 5y = 10$ .

It contains the point  $(-2, -3)$ .

3. It is parallel to the line for  $4y - 6 = 2$ .

It contains the point  $(-3, -6)$ .

4. It is parallel to the line for  $3x - 7 = 14$ .

It contains the point  $(-5, 3)$ .

Find a relation for each of the following in the form  $y = mx + b$  which has a solution set line perpendicular to the line for the given equation, and contains the given points (solution).

5. It is perpendicular to the line for  $y = \frac{2}{3}x - 4$ .

It contains the point  $(4, 2)$ .

6. It is perpendicular to the line for  $4y + 3x = 8$ .

It contains the point  $(-5, -1)$ .

7. It is perpendicular to the line for  $5 = 3x - 4$ .

It contains the point  $(-5, -4)$ .

8. It is perpendicular to the line for  $-x - 3y = 15$ .

It contains the point  $(3, 2)$ .

## EXTRA PRACTICE — Answer Key

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Find a relation for each of the following in the form  $y = mx + b$  which has a solution set line parallel to the line for the given equation, and contains the given point (solution).

1.  $y = \frac{-4}{3}x + \frac{23}{3}$

2.  $y = \frac{3}{5}x - \frac{9}{5}$

3.  $y = -6$

4.  $x = -5$

Find a relation for each of the following in the form  $y = mx + b$  which has a solution set line perpendicular to the line for the given equation, and contains the given points (solutions).

5.  $y = \frac{-3}{2}x + 8$

6.  $y = \frac{-4}{3}x + \frac{17}{3}$

7.  $y = -4$

8.  $y = 3x - 7$