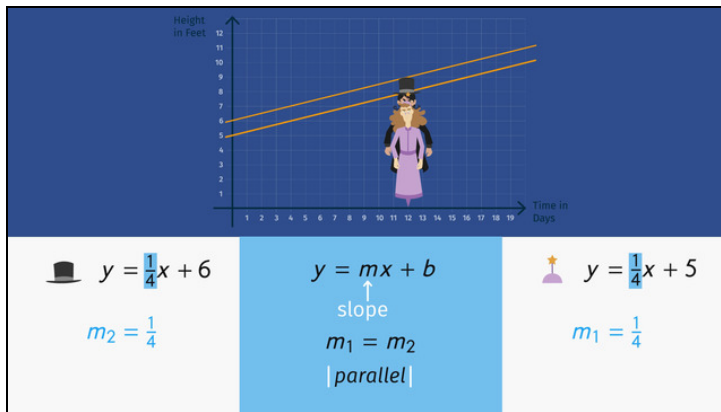Printable Worksheets from sofatutor.com

Parallel and Perpendicular Lines

1   **Decide if each line is parallel or perpendicular to the red line.**

2   Describe the effect of the potions.

3   Determine the Dark Count's starting height without his Sunday hat.

4   Examine which line corresponding to the equation is parallel or perpendicular to the given line.

5   Determine the equation of a line that is perpendicular to the graph of the given equation.

6   Write equations to describe the new streets.

+   with lots of tips, answer keys, and detailed answer explanations for all of the problems.

⚠ The complete package, **including all problems, hints, answers, and detailed answer explanations** is available for all sofatutor.com subscribers.

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Worksheet: Parallel and Perpendicular Lines
Mathematics / Algebra 1 / Linear Equations and Inequalities / Parallel and Perpendicular Lines

1
of 6

Decide if each line is parallel or perpendicular to the red line.

Highlight the lines that are parallel or perpendicular to the red line. Use different colors.

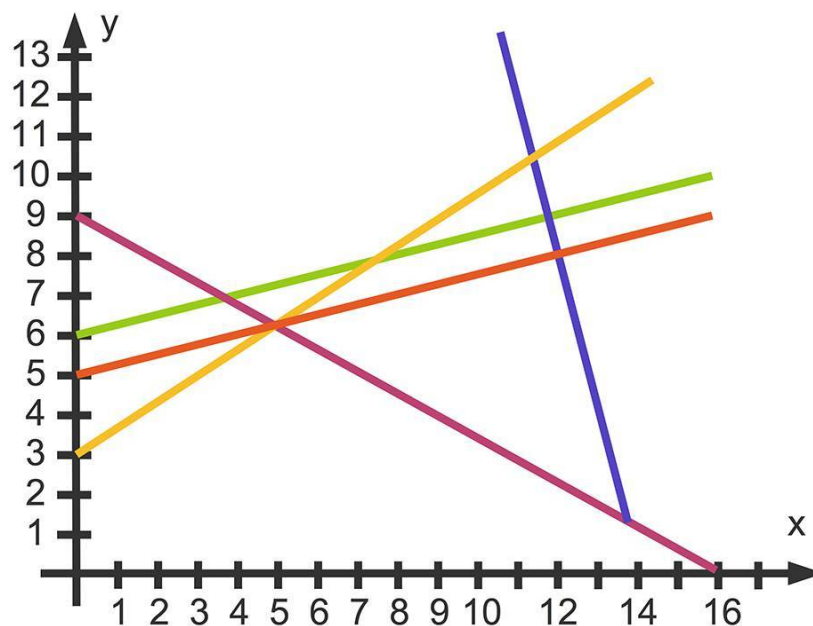The red line describes the equation $y = \frac{1}{4}x + 5$

Examine the other lines in relationship to the red line.

◇ Parallel   ◇ Perpendicular

Hints for solving these problems

1
of 6

Decide if each line is parallel or perpendicular to the red line.

Hint #1

Parallel lines have the same slope. Therefore, they have the same steepness.

Hint #2

The point where perpendicular lines meet forms a right angle.

Hint #3

There is only one line that is parallel to the red line and one line that is perpendicular to the red line.

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Answers and detailed answer explanations for these problems
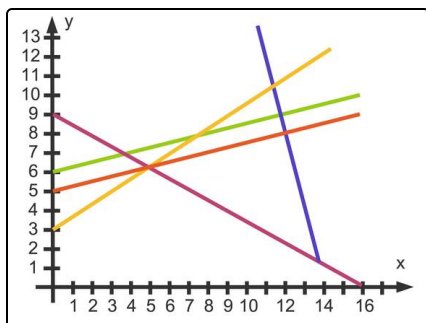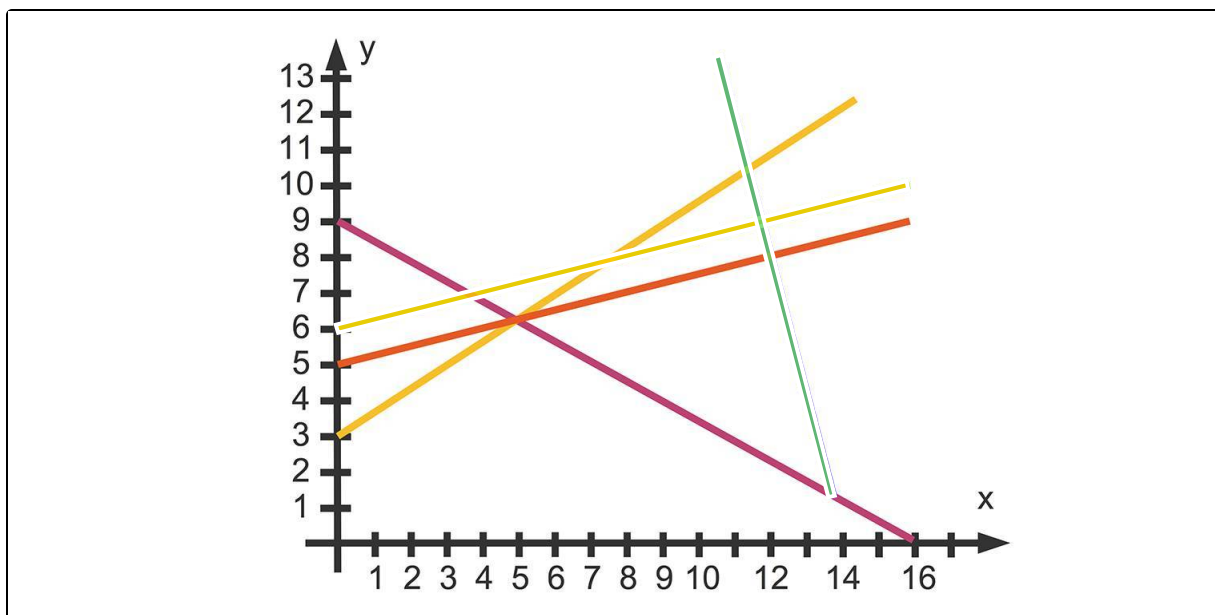
1
of 6

Decide if each line is parallel or perpendicular to the red line.

◇ Parallel   ◇ Perpendicular

The red line belongs to the equation $y = \frac{1}{4}x + 5$.

The green line is parallel to the red line. The corresponding equation is $y = \frac{1}{4}x + 6$.

Notice that the slope of the two lines $m = \frac{1}{4}$ is the same.

The slope of the blue line is $m = -4$. The product of this slope and the slope of the red line, $\frac{1}{4}$, is -1. So the blue line is perpendicular to the red line. The point where perpendicular lines meet forms a right angle.

The orange and violet lines are neither parallel nor perpendicular to the red line.