Student Name: _____ Date: _____

Lesson 3.8/3.10 Equations of Lines & Distance

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1) Fill in the blanks using the available answer choices.

Select whether $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are *parallel, perpendicular*, or *neither*. Graph each line on a separate sheet of paper to verify your answer.

$A(1,\ 5),\ B(4,\ 4),\ C(9, -10),\ D(-6, -5)$

_____
(Blank 1)

Blank 1 options
- parallel
- perpendicular
- neither

2) Fill in the blanks using the available answer choices.

Select whether $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are *parallel, perpendicular*, or *neither*. Graph each line on a separate sheet of paper to verify your answer.

$A(4,\ 2),\ B(-3,\ 1),\ C(6,\ 0),\ D(-10,\ 8)$

_____
(Blank 1)

Blank 1 options
- parallel
- perpendicular
- neither

3) Fill in the blanks using the available answer choices.

Select whether $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are *parallel, perpendicular*, or *neither*. Graph each line on a separate sheet of paper to verify your answer.

$A(8, -2),\ B(4, -1),\ C(3,\ 11),\ D(-2, -9)$

_____
(Blank 1)

Blank 1 options
- parallel
- perpendicular
- neither

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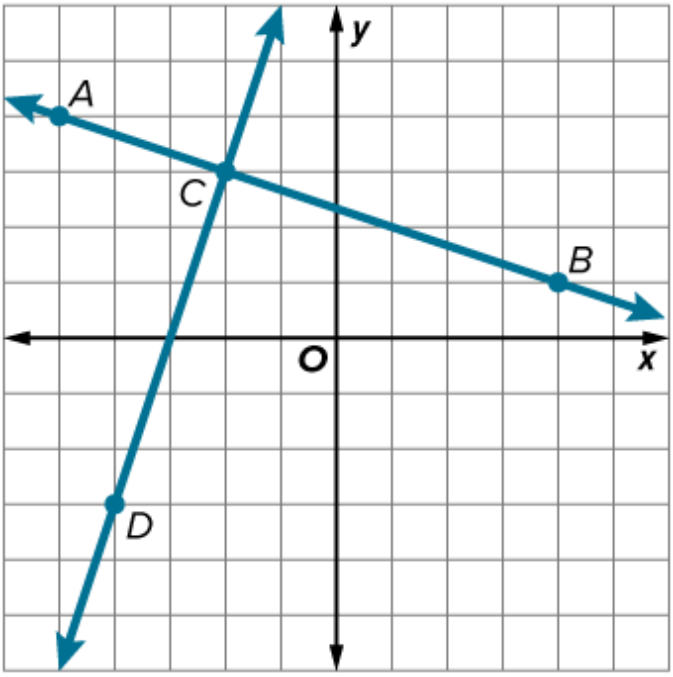
4) Fill in the blanks using the available answer choices.

Select whether the pair of lines is *parallel*, *perpendicular*, or *neither*.



_____
(Blank 1)

Blank 1 options

- parallel
- perpendicular
- neither

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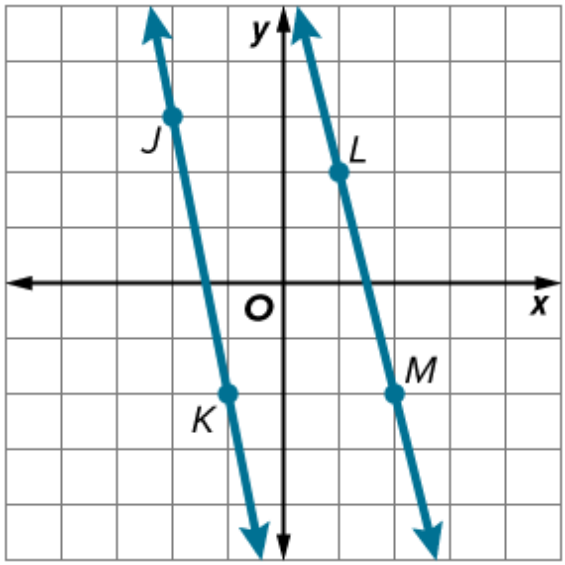
5) Fill in the blanks using the available answer choices.

Select whether the pair of lines is *parallel*, *perpendicular*, or *neither*.



_____
(Blank 1)

Blank 1 options

- parallel
- perpendicular
- neither

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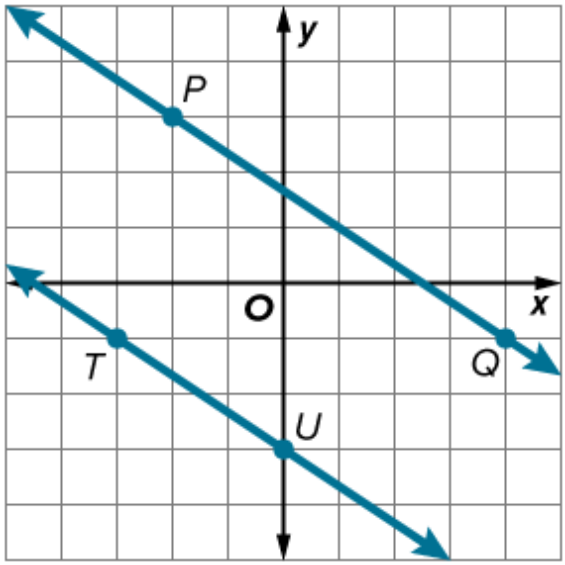
6) Fill in the blanks using the available answer choices.

Select whether the pair of lines is *parallel*, *perpendicular*, or *neither*.



_____
(Blank 1)

Blank 1 options
- parallel
- perpendicular
- neither

7) Fill in the blanks using the available answer choices.

Select whether the pair of lines is *parallel*, *perpendicular*, or *neither*.

$y = 2x + 4,\ y = 2x - 10$

_____
(Blank 1)

Blank 1 options
- parallel
- perpendicular
- neither

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8) Fill in the blanks using the available answer choices.

Select whether the pair of lines is *parallel*, *perpendicular*, or *neither*.

$y = -\frac{1}{2}x - 12,\ y - 3 = 2(x + 2)$

_____
(Blank 1)

Blank 1 options
- parallel
- perpendicular
- neither

9) Fill in the blanks using the available answer choices.

Select whether the pair of lines is *parallel*, *perpendicular*, or *neither*.

$y - 4 = 3(x + 5),\ y + 3 = -\frac{1}{3}(x + 1)$

_____
(Blank 1)

Blank 1 options
- parallel
- perpendicular
- neither

10) Fill in the blanks using the available answer choices.

Select whether the pair of lines is *parallel*, *perpendicular*, or *neither*.

$x = -2,\ y = 10$

_____
(Blank 1)

Blank 1 options
- parallel
- perpendicular
- neither

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Lesson 3.8/3.10 Equations of Lines & Distance

11) Fill in the blanks using the available answer choices.

Select whether the pair of lines is *parallel*, *perpendicular*, or *neither*.

$y = 5,\ y = -3$

_____
(Blank 1)

Blank 1 options
- parallel
- perpendicular
- neither

12) Write an equation in slope-intercept form for the line described. Write the slope and *y*-intercept as improper fractions, if necessary.

passes through $(-7, -4)$, perpendicular to $y = \frac{1}{2}x + 9$

13) Find the distance between point *P* and line ℓ.

Line ℓ contains points (0, -3) and (7, 4). Point *P* has coordinates (4, 3).

- $\sqrt{3}$ or about 1.73 units
- $\sqrt{10}$ or about 3.16 units
- $\sqrt{2}$ or about 1.41 units
- 2 units

14) Find the distance between point *P* and line ℓ.

Line ℓ contains points (-2, 1) and (4, 1). Point *P* has coordinates (5, 7).

- 5 units
- $\sqrt{35}$ or about 5.92 units
- $\sqrt{47}$ or about 6.96 units
- 6 units

15) Find the distance between the pair of parallel lines with the given equations.

$y = 7$
$y = -1$

- 9 units
- 8 units
- $\sqrt{63}$ or about 7.94 units
- $\sqrt{65}$ or about 8.06 units

Lesson 3.8/3.10 Equations of Lines & Distance

16) Find the distance between the pair of parallel lines with the given equations.
$y = 3x$
$y = 3x + 10$

- $\sqrt{10}$ or about 3.16 units
- 10 units
- $10\sqrt{2}$ or about 14.14 units
- 3 units

17) Find the distance between the pair of parallel lines with the given equations.
$y = x + 9$
$y = x + 3$

- 3 units
- $3\sqrt{2}$ or about 4.24 units
- $\sqrt{6}$ or about 2.45 units
- 2 units