

Name when given a graph

Date _____

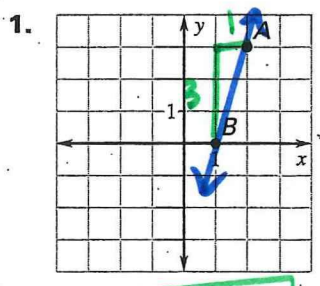
LESSON 3.4 Practice
For use with pages 171-179

use $m = \frac{\text{rise}}{\text{run}}$

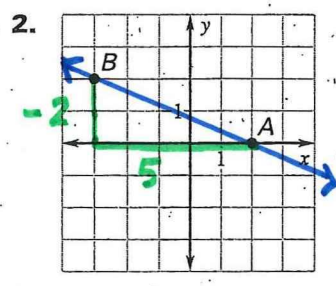
start at the left most point

Find the slope of the line that passes through the points.

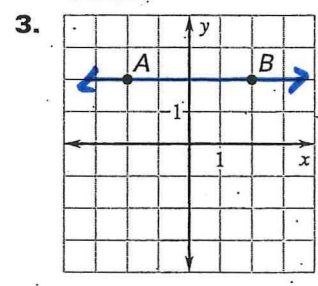
$m = \frac{\text{rise}}{\text{run}}$



$m = 3$

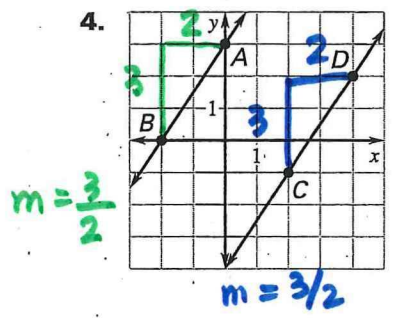


$m = -\frac{2}{5}$



$m = 0$

Find the slope of each line. Are the lines parallel? *same slope*

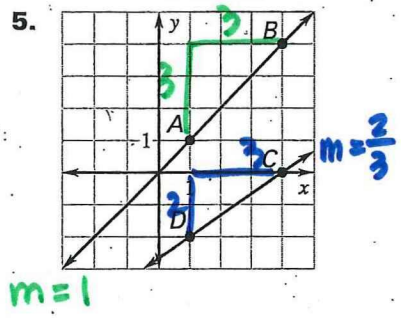


$m = \frac{3}{2}$

$m = \frac{3}{2}$

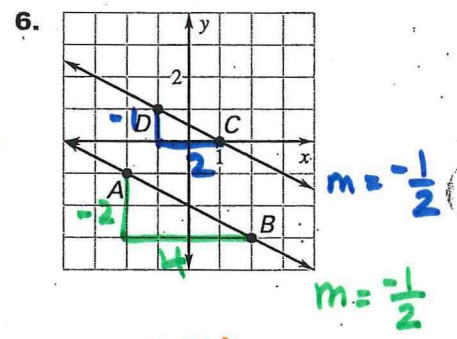
$\leftrightarrow AB \parallel \leftrightarrow CD$

yes



$m = 1$

NO



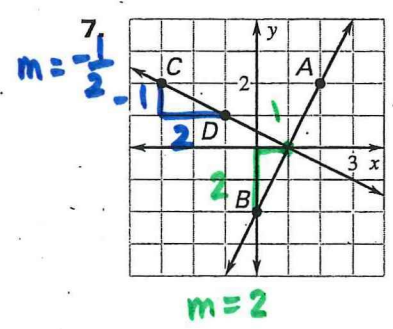
$m = \frac{2}{3}$

$m = -\frac{1}{2}$

$m = \frac{1}{2}$

yes

Find the slope of each line. Are the lines perpendicular? *opposite reciprocal*

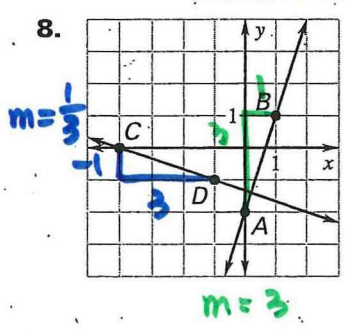


$m = \frac{1}{2}$

$m = 2$

$\leftrightarrow AB \perp \leftrightarrow CD$

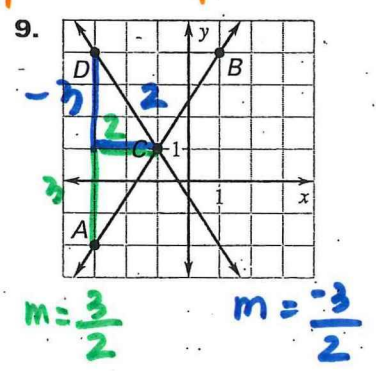
yes



$m = \frac{1}{3}$

$m = 3$

yes



$m = \frac{3}{2}$

$m = -\frac{3}{2}$

NO

LESSON 3.4

Practice *continued*
For use with pages 171-179

use $m = \frac{y_2 - y_1}{x_2 - x_1}$

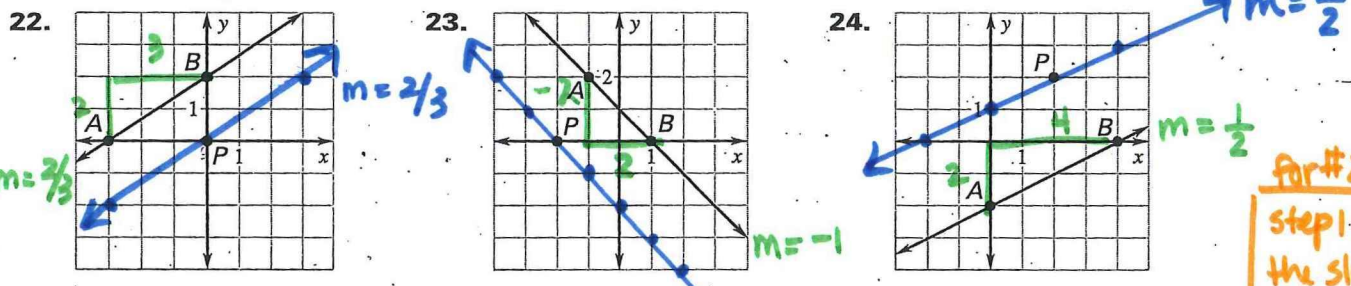
Tell whether the lines through the given points are *parallel*, *perpendicular*, or *neither*.

10. Line 1: $(-1, 2), (2, 3)$
Line 2: $(0, 0), (3, 1)$
 $m_1 = \frac{3-2}{2-(-1)} = \frac{1}{3}$ $m_2 = \frac{1-0}{3-0} = \frac{1}{3}$ *parallel*
11. Line 1: $(0, 1), (1, 3)$
Line 2: $(4, -1), (5, 2)$
 $m_1 = \frac{3-1}{1-0} = 2$ $m_2 = \frac{2-(-1)}{5-4} = 3$ *neither*
12. Line 1: $(-5, 0), (-3, -2)$
Line 2: $(-2, 2), (0, 4)$
 $m_1 = \frac{-2-0}{-3-(-5)} = -1$ $m_2 = \frac{4-2}{0-(-2)} = 1$ *perpendicular*
13. Line 1: $(-3, 4), (-3, 1)$
Line 2: $(2, 1), (5, 5)$
 $m_1 = \frac{1-4}{-3-(-3)} = \text{undefined}$ $m_2 = \frac{5-1}{5-2} = \frac{4}{3}$ *neither*
14. Line 1: $(-5, 2), (-2, 2)$
Line 2: $(2, 1), (4, 1)$
 $m_1 = \frac{2-2}{-2-(-5)} = 0$ $m_2 = \frac{1-1}{4-2} = 0$ *parallel*
15. Line 1: $(-2, 5), (1, 4)$
Line 2: $(4, 0), (5, 3)$
 $m_1 = \frac{4-5}{1-(-2)} = -\frac{1}{3}$ $m_2 = \frac{3-0}{5-4} = 3$ *perpendicular*

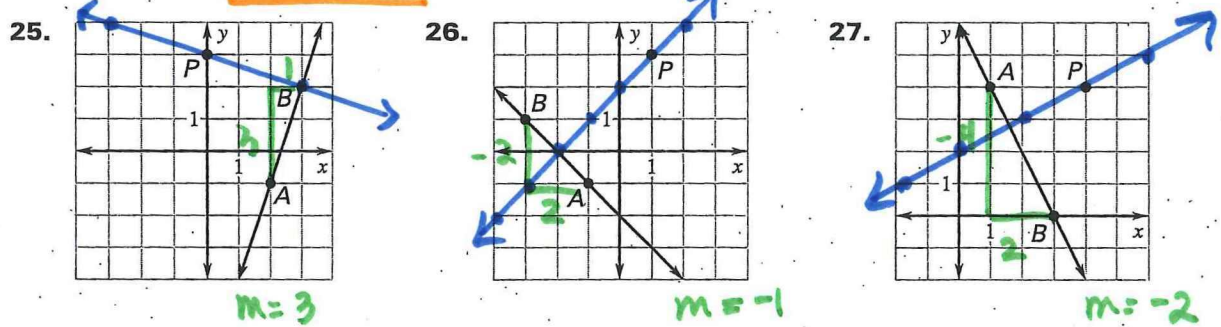
Tell whether the intersection of \overline{AB} and \overline{CD} forms a right angle.

16. $A(-8, 3), B(1, 2), C(0, 9), D(-1, 0)$ *yes*
 $m_{AB} = \frac{2-3}{1-(-8)} = -\frac{1}{9}$ $m_{CD} = \frac{0-9}{-1-0} = 9$
17. $A(3, 2), B(5, 10), C(7, -4), D(3, -3)$ *yes*
 $m_{AB} = \frac{10-2}{5-3} = 4$ $m_{CD} = \frac{-3-(-4)}{3-7} = -\frac{1}{4}$
18. $A(5, 4), B(-3, 20), C(9, -2), D(6, 4)$ *no*
 $m_{AB} = \frac{20-4}{-3-5} = -2$ $m_{CD} = \frac{4-(-2)}{6-9} = -\frac{6}{3} = -2$
19. $A(7, 12), B(1, 5), C(10, -7), D(3, -1)$ *yes*
 $m_{AB} = \frac{5-12}{1-7} = \frac{7}{6}$ $m_{CD} = \frac{-1-(-7)}{3-10} = \frac{6}{-7}$
20. $A(-8, 17), B(-5, 18), C(6, 11), D(5, 8)$ *no*
 $m_{AB} = \frac{18-17}{-5-(-8)} = \frac{1}{3}$ $m_{CD} = \frac{8-11}{5-6} = 3$
21. $A(-7, 3), B(-10, 15), C(-1, 5), D(4, 35)$ *no*
 $m_{AB} = \frac{15-3}{-10-(-7)} = -4$ $m_{CD} = \frac{35-5}{4-(-1)} = 6$

Graph the line parallel to line AB that passes through point P.



Graph the line perpendicular to line AB that passes through point P.



for #22-27
step 1: Find the slope of \overline{AB}
step 2: use the slope (// or \perp) of \overline{AB} and plot points from point B