1E Train Tracks Name: _____Per: _____

NO WORK, NO CREDIT. PENCIL ONLY.

Objective: Write equations for parallel lines, and perpendicular lines Due Date: Sept 6th / Sept 7th

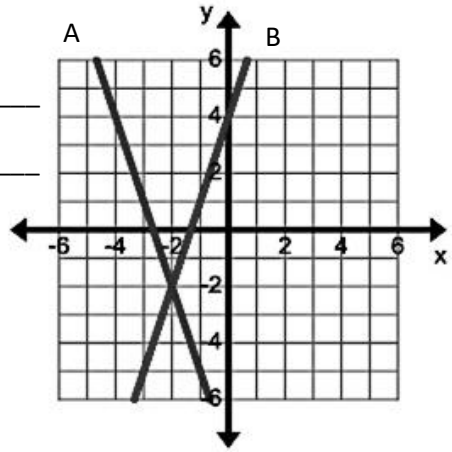
1. Find the **negative reciprocal** of the following

a. $\frac{2}{3}$ b. $-\frac{1}{5}$ c. $\frac{5}{3}$ d. 7

2. **Explain how you know** from their slopes whether the lines on the graph are parallel:_____, perpendicular:_____, or neither:_____.

Given the graphs below, find **the slope** of each line and then circle whether the lines are **parallel**, **perpendicular, or neither**.

3.

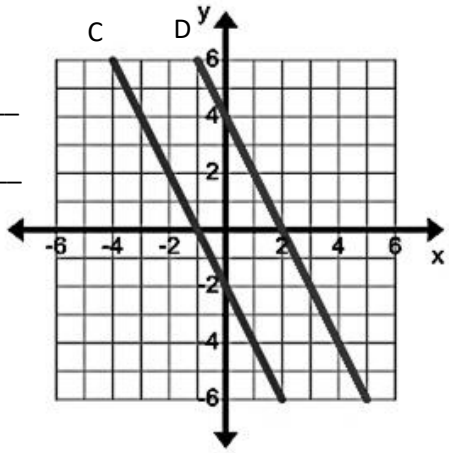


A Slope _____

B Slope _____

Parallel Perpendicular Neither

4.

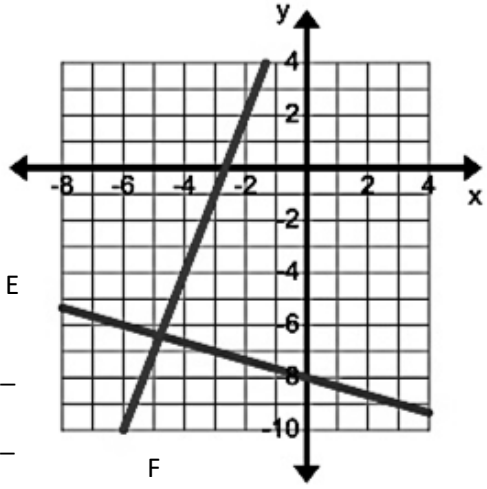


C Slope _____

D Slope _____

Parallel Perpendicular Neither

5.

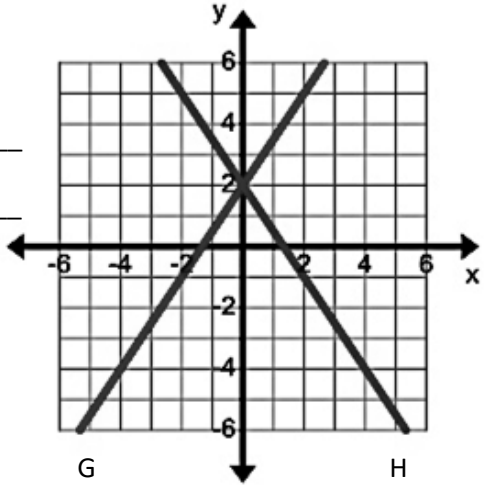


E Slope _____

F Slope _____

Parallel Perpendicular Neither

6.



G Slope _____

H Slope _____

Parallel Perpendicular Neither

Tell whether the following lines are **parallel, perpendicular, or neither** given the equations below. SYW.

7. $y = -2x + 5$ and $y = 2x - 3$

8. $-8y = 3x - 16$ and $6y = 16x - 9$

Explain how you know that the lines through the points are **parallel, perpendicular, or neither**.

EX: Line A (2, 5) & (−2, 7); Line B (0, 4) & (1, 6)

Slope of Line A: $-\frac{1}{2}$

Slope of Line B: 2

The slopes of Line A and Line B are negative reciprocal, so the lines are **perpendicular.**

9. $Line\ C\ (1,2)$ & $(5,4)$; $Line\ D\ (0,3)$ & $(2,4)$

Slope of Line C:

Slope of Line D:

10. $(0,-5)\ and\ (2,-4)$; $(-1,-5)\ and\ (1,-6)$

11. $(0,2)\ and\ (-4,8)$; $(-4,0)\ and\ (4,-12)$

Write equations for the following:

12. a. Write any equation that would be **parallel** to the line $y=-\frac{1}{2}x+6$. _____

b. Write an equation from 12a that passes through the point (10, 4). _____

13. a. Write any equation that would be **parallel** to the line $2y=3x-8$. _____

b. Write an equation from 13a that passes through the point $(6,-1)$. _____

14. a. Write any equation that would be **perpendicular** to the line $y=-\frac{1}{2}x+6$. _____

b. Write an equation from 14a that passes through the point (10, 4). _____

15. a. Write any equation that would be **perpendicular** to the line $2y=3x-8$. _____

b. Write an equation from 15a that passes through the point $(6,-1)$. _____

Solve for x.

16. $3(x+6)=x+2$

17. $\frac{1}{3}x+9=2(22-x)$

18. $-4(x+6)=2x+8$