1.2H Train Tracks (Test Next Time) Name:_____ Per: _____

NO WORK, NO CREDIT. PENCIL ONLY.

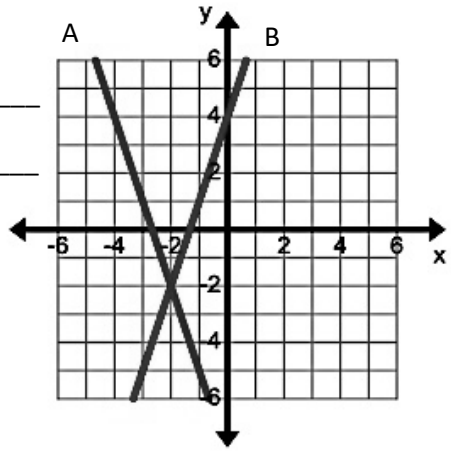
1. Find the **negative reciprocal** of the following

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

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.

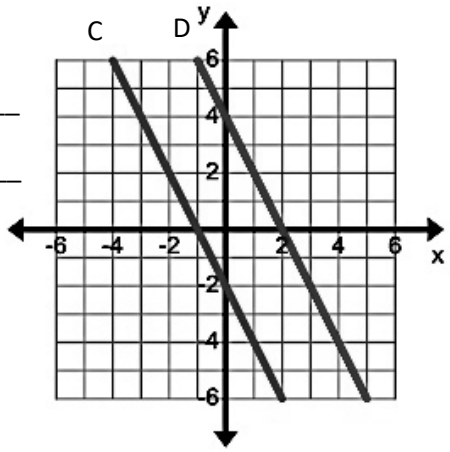


A Slope _____

B Slope _____

Parallel Perpendicular Neither

4.

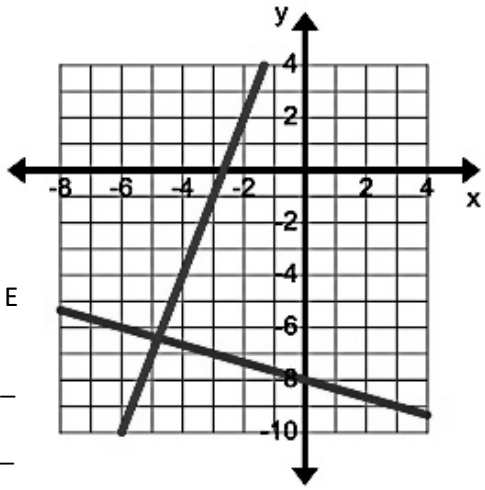


C Slope _____

D Slope _____

Parallel Perpendicular Neither

5.

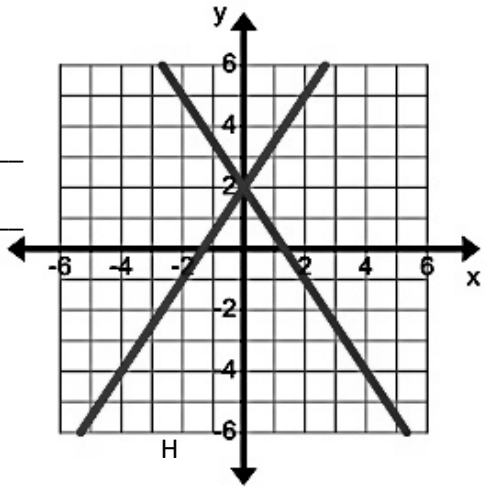


E Slope _____

F SlopeF_____

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 $y - 2x = -3$

HDYK:

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

HDYK:

All answers should be written in COMPLETE SENTENCES.

EXPLAIN how you know that the lines through the points are **parallel, perpendicular, or neither**. **THERE IS AN EXAMPLE. DO NOT COME TO CLASS WITH 9-11 BLANK.**

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 reciprocals, so the lines are **perpendicular**.

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

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. Change the equation from 12a to pass through the point (10, 4). _____

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

b. Change the equation from 13a to pass through the point $(6, -1)$. _____

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

b. Change the equation from 14a to pass through the point (10, 4). _____

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

b. Change the equation from 15a to pass through the point $(6, -1)$. _____

Solve for x.

16. $-1 - 15x + 5(-8x - 2) = -4x - 8$

17. $-3(4x + 3) + 4(6x + 1) = 43$

18. $-(1 + 7x) - 6(-7 - x) = 36$

19. $24x - 22 = -4(1 - 6x)$