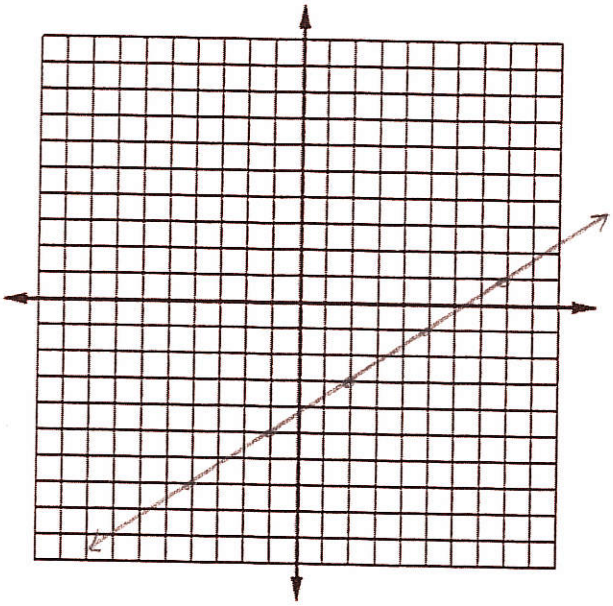
Precalculus
Graphing & Writing equations of lines

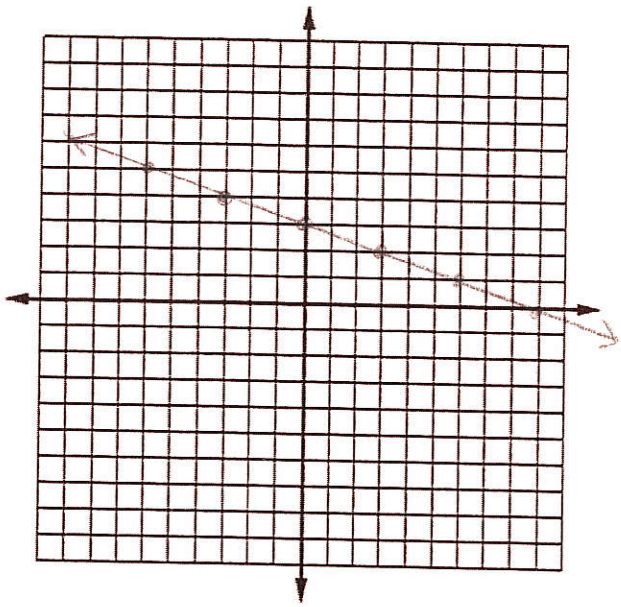
Name Key
Period_____ Date_____

Graph the line with the given information.

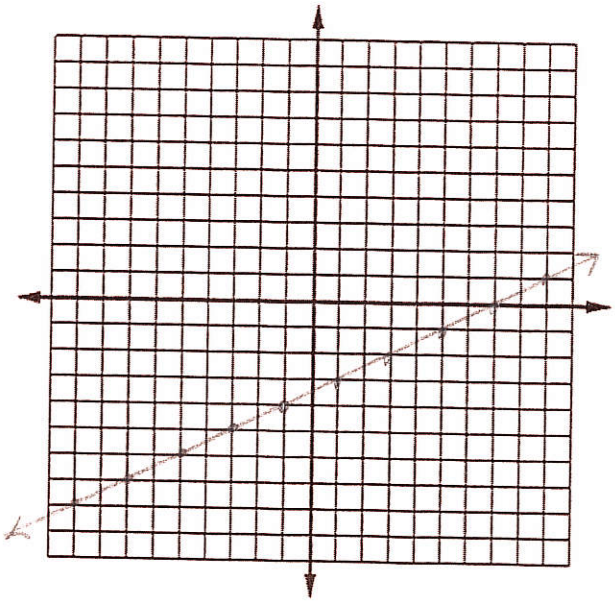
1. Point A $(2, -3)$ and $m = \frac{2}{3}$



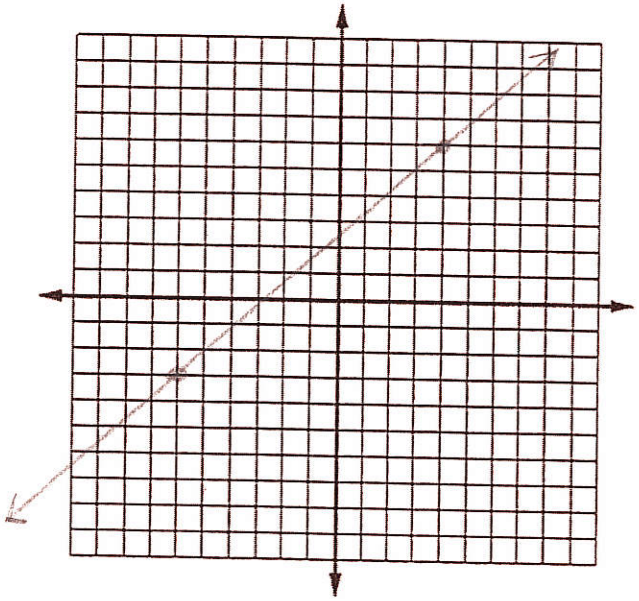
2. Point C $(-3, 4)$ and $m = \frac{-1}{3}$



3. Point B $(-1, -4)$ and $m = \frac{1}{2}$



4. Point D $(-6, -3)$ and Point E $(4, 6)$



$m = \frac{-3-6}{-6-4} = \frac{-9}{-10} = \frac{9}{10}$

Using the idea of transformations and **not** slope intercept form ($y = mx + b$), write an equation for the lines represented in problems 1 – 4.

5. Equation for problem #1 $y = \frac{2}{3}(x-2)-3$ or $y+3 = \frac{2}{3}(x-2)$

6. Equation for problem #2 $y = -\frac{1}{3}(x+3)+4$ or $y-4 = -\frac{1}{3}(x+3)$

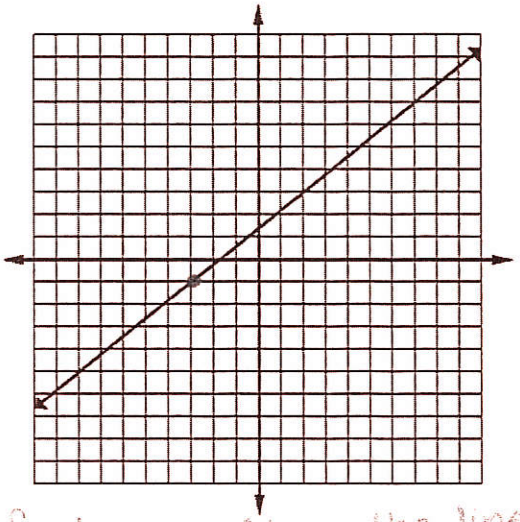
7. Equation for problem #3 $y = \frac{1}{2}(x+1)-4$ or $y+4 = \frac{1}{2}(x+1)$

8. Equation for problem #4 $y = \frac{9}{10}(x+6)-3$ or $y+3 = \frac{9}{10}(x+6)$

$y = \frac{9}{10}(x-4)+6$ or $y-6 = \frac{9}{10}(x-4)$

Using the idea of transformations (**not** slope intercept form i.e. $y = mx + b$), write the equation for the given lines.

9.

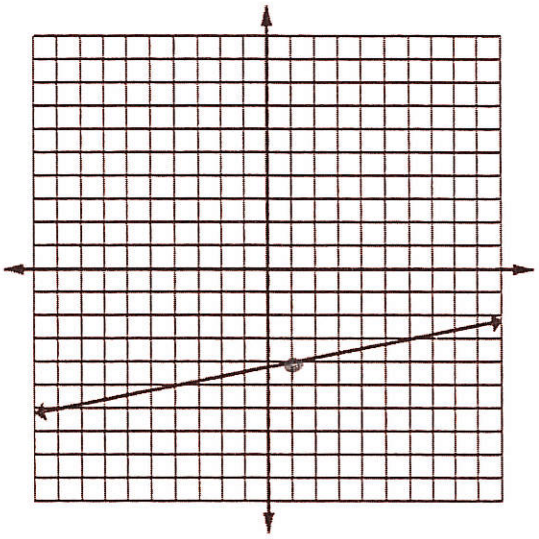


find any point on the line and the slope

$(-3,-1)$ $m = \frac{4}{5}$

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

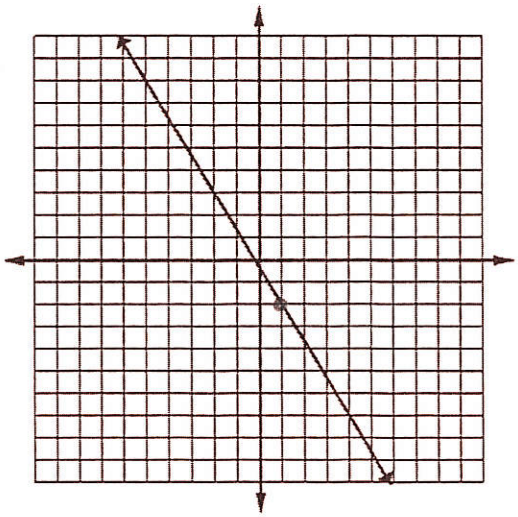
10.



$(1,-4)$ $m = \frac{1}{5}$

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

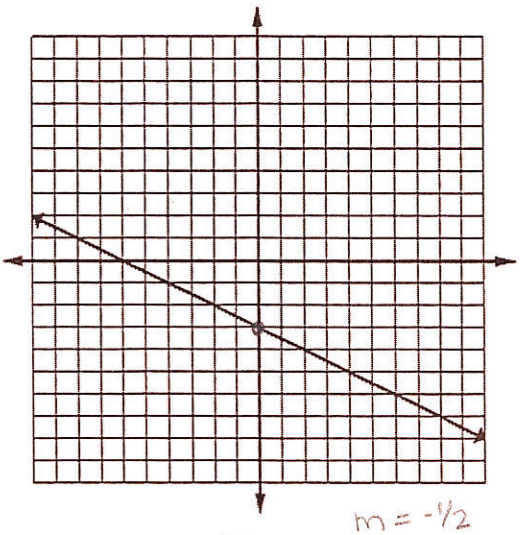
11.



$(1,-2)$ $m = -\frac{5}{3}$

$y = -\frac{5}{3}(x-1)-2$

12.

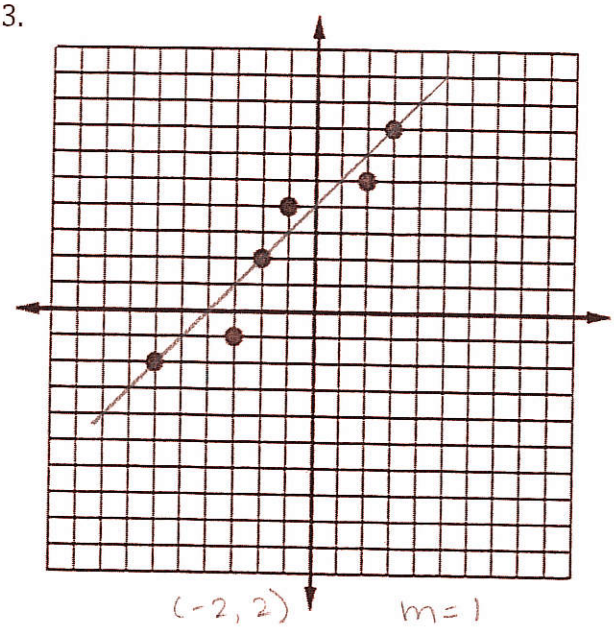


$m = -\frac{1}{2}$

$y = -\frac{1}{2}x-3$

Write the equation for the "line of best fit" for the given points using the idea of transformations.

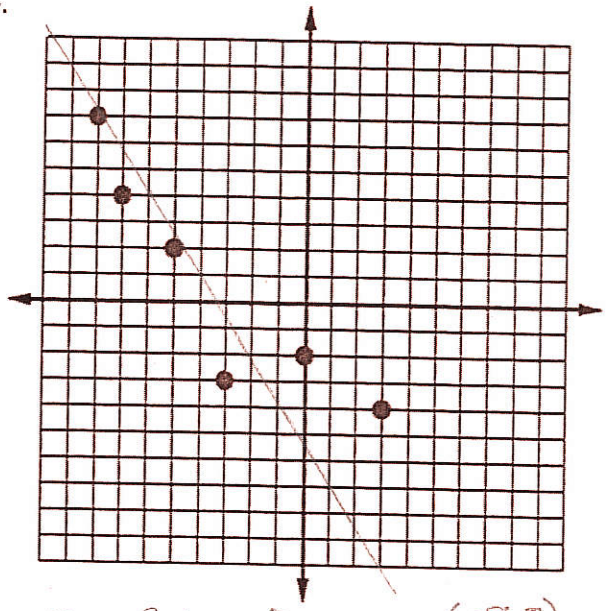
13.



(-2, 2) m=1

$y = (x+2)+2$

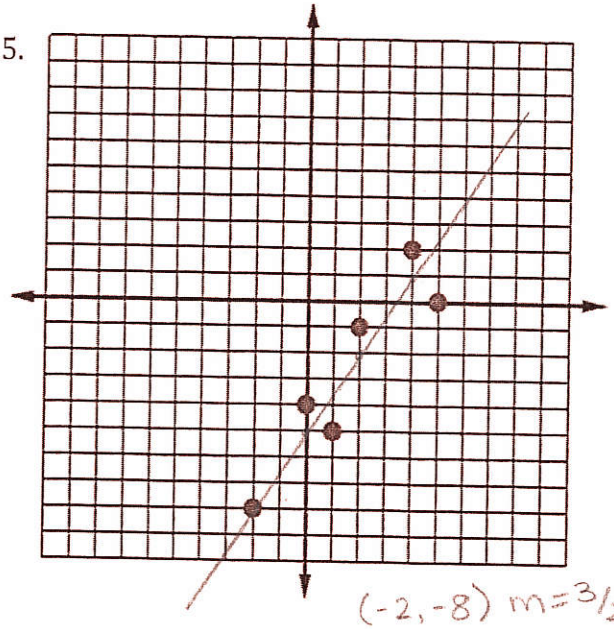
14.



$y = -\frac{3}{2}(x+8)+7$ (-8,7)

$m = -3/2$

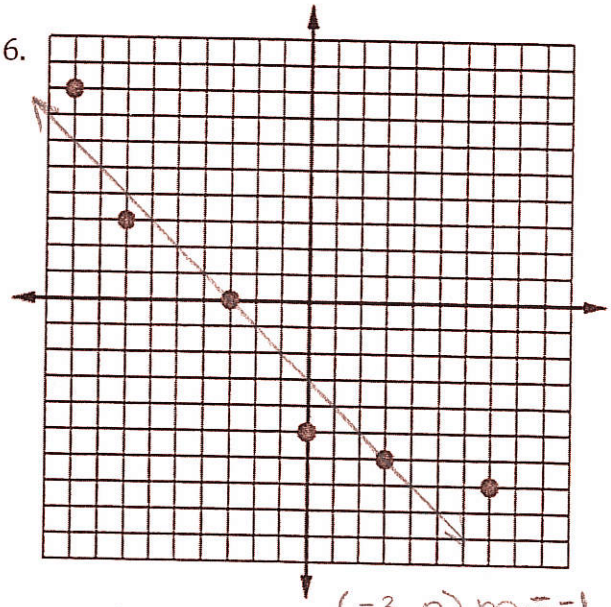
15.



(-2,-8) $m = 3/2$

$y = 3/2(x+2)-8$

16.



(-3,0) m=-1

$y = -1(x+3)$

Write the equation for the line that passes through the given two points.

17. A $(-2, 4)$, and B $(-6, 2)$

$m = \frac{4-2}{-2+6} = \frac{2}{4} = \frac{1}{2}$

$y = \frac{1}{2}(x+2)+4$ or $y = \frac{1}{2}(x+6)+2$

18. A $(5, 4)$, and B $(-6, -3)$

$m = \frac{4+3}{5+6} = \frac{7}{11}$

$y = \frac{7}{11}(x-5)+4$ or $y = \frac{7}{11}(x+6)-3$

19. A $(4, 4)$, and B $(8, -6)$

$m = \frac{4+6}{4-8} = \frac{10}{-4} = \frac{5}{-2}$

$y = -\frac{5}{2}(x-4)+4$ or $y = -\frac{5}{2}(x-8)-6$

20. A $(-1, 5)$, and B $(8, -3)$

$m = \frac{5--3}{-1-8} = \frac{8}{-9} = \frac{-8}{9}$

$y = -\frac{8}{9}(x+1)+5$ or $y = -\frac{8}{9}(x-8)-3$