N: _____ D: _____ P: 1 2 3 4 5 6

Algebra 2 : Topic 2 // 2.3 Practice // ***Practice 1*** *Mission Hills Math 2013*

A. Find the slope (m) of the line that passes through the given points.

1. (3, 2) and (5, 7)

2. (-1, 8) and (3, 4)

3. (3, -2) and (-5, 0)

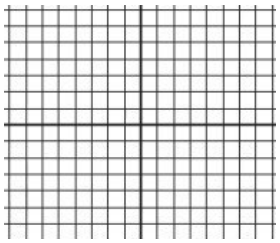
4. (1, -9) and (3, -6)

5. (5, 4) and (5, -1)

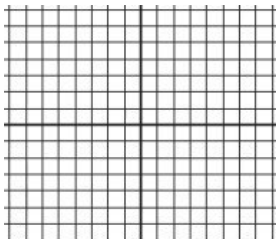
6. (-2, -7) and (4, -7)

B. Graph each line given the slope and point on the line.

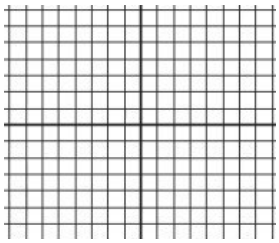
7. m = -3
   (2, 5)



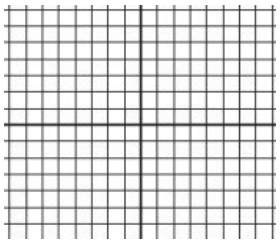
8. m = 1
   (-6, 0)



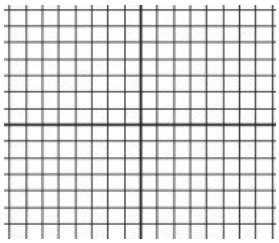
9. m = $\frac{1}{4}$
   (1, -3)



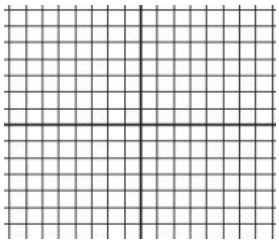
10. m = $-\frac{1}{2}$
    (0, 4)



11. m = 0
    (-3, 2)

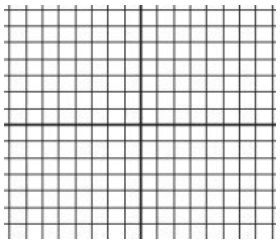


12. m = undefined
    (1, 1)

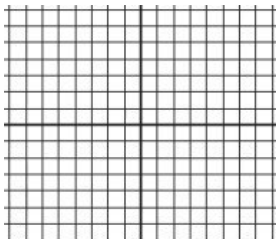


C. Graph the following lines in slope-intercept form.

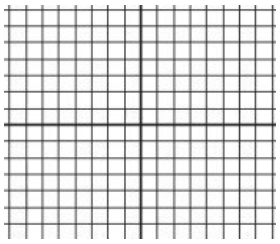
13. $y = 2x - 4$



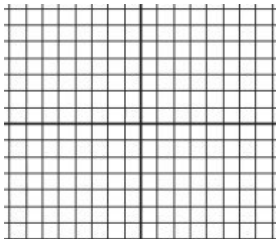
14. $y = -x + 3$



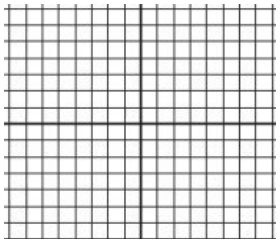
15. $y = \frac{1}{4}x$



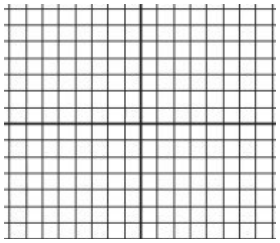
16. $y = -2$



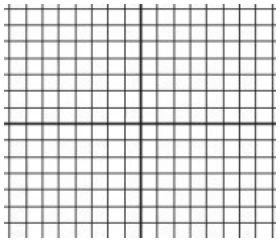
17. $y = 4x - 1$



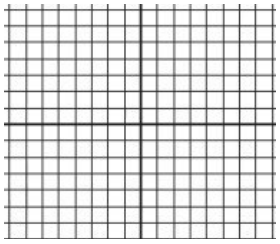
18. $y = -\frac{2}{3}x + 2$



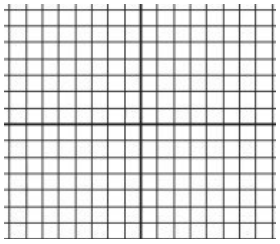
19. $y = x$



20. $x = 4$



21. $y = -3x + 4$



N: _____ D: _____ P: 1 2 3 4 5 6

Algebra 2 : Topic 2 // 2.4 Practice // ***Practice 2*** *Mission Hills Math 2013*

Directions: Write the equation of the following lines in slope-intercept form.

1. Write the equation of the line that has a slope of -3 and a y-intercept of 1.

2. Write the equation of the line that has a slope of 2 and a y-intercept of 0.

3. Write the equation of the line that has a slope of 0 and a y-intercept of -6.

4. Write the equation of the line that has an undefined slope and an x-intercept of 2.

5. Write the equation of the line that has a slope of 1 and passes through (4, -3)

6. Write the equation of the line that has a slope of $\frac{1}{2}$ and passes through (-8, 0)

7. Write the equation of the line that has a slope of -6 and passes through (-1, -1)

8. Write the equation of the line that has a slope of $-\frac{2}{3}$ and passes through (6, 2)

9. Write the equation of the horizontal line that passes through (4, 1)

10. Write the equation of the vertical line that passes through (-7, -2)

11. Write the equation of the line that has a slope of zero and passes through (-3, 5)

12. Write the equation of the line that passes through (2, -4) and (4, 2)

13. Write the equation of the line that passes through (-1, 6) and (3, 2)

14. Write the equation of the line that passes through (0, 4) and (6, 7)

15. Write the equation of the line that passes through (2, 4) and (2, -10)

16. Write the equation of the line that passes through (5, -3) and (4, -5)

17. Write the equation of the line that passes through (-7, 1) and (0,1)

18. Write the equation of the line that passes through (2, -4) and (-4, 1)

19. Write the equation of the line that passes through the origin and the point (-7, 3)

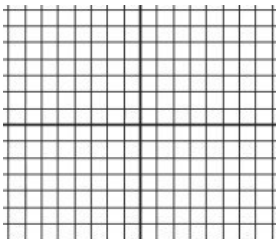
20. Write the equation of the line that has an x-intercept of 5 and a y-intercept of -6.

N: _____ D: _____ P: 1 2 3 4 5 6

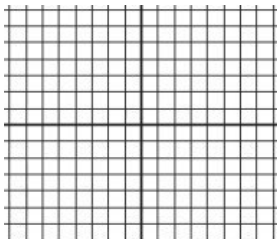
Algebra 2 : Topic 2 // 2.5 Practice // ***Practice 3*** *Mission Hills Math 2013*

Sketch the graphs of the following inequalities. Use graph paper!

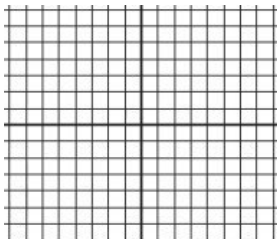
1. $y \geq 2x - 5$



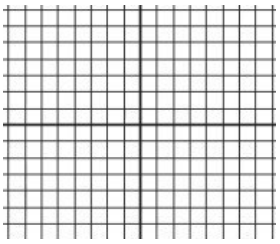
2. $y < -\frac{1}{2}x + 4$



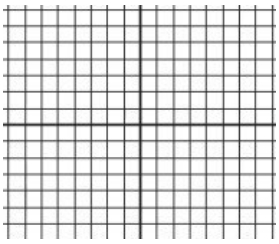
3. $y > 3$



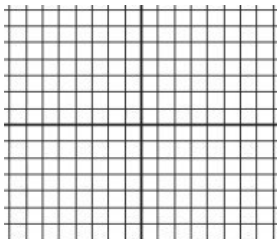
4. $y \geq \frac{2}{3}x$



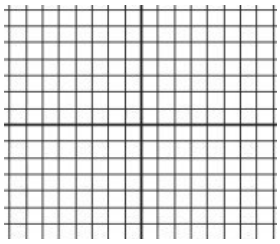
5. $3x > -12$



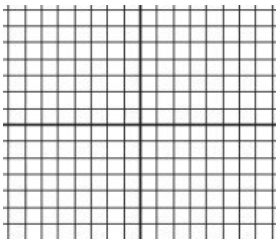
6. $2x + 2 \leq 10$



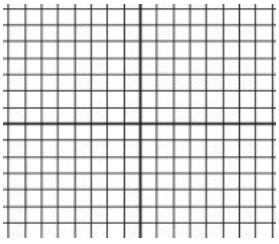
7. $y \geq -x + 3$



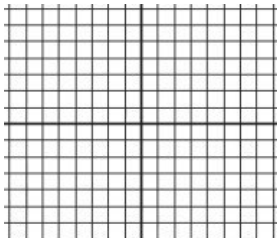
8. $-y \leq \frac{2}{5}x + 1$



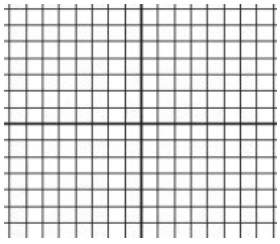
9. $2x + 3y < 6$



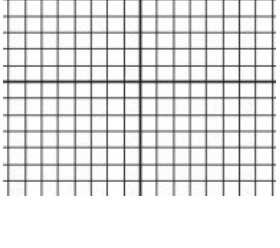
10. $-x + 2y \geq 4$



11. $3x - y \geq 6$



12. $4x + 3y \leq 12$

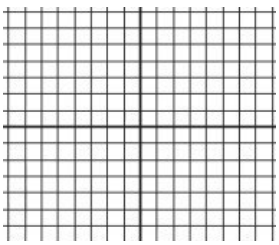


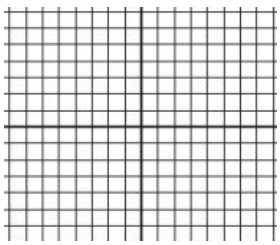
13. $x < -5 + y$

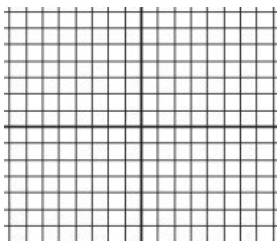
14. $\begin{cases} y \leq -x + 2 \\ x < 3 \end{cases}$

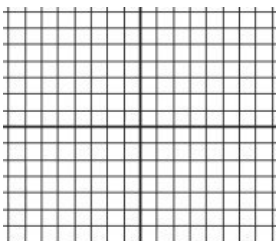
15. $\begin{cases} -2y > x - 4 \\ x \geq -1 \\ -y < 3 \end{cases}$

16. $\begin{cases} x \leq 5 \\ y \geq -4 \\ x \geq -2 \\ y \leq 6 \end{cases}$









Algebra 2

N:

Topic 2 // x– int and y—int // ***Practice A*** D: P: 1 2 3 4 5 6

→ Find the x-intercepts and y-intercepts

1.) y = -6x + 12

x-intercepts:

y-intercepts:

2.) y = 3x - 10

x-intercepts:

y-intercepts:

3.) y = 1/4x + 4

x-intercepts:

y-intercepts:

4.) 6x + 4y = 12

x-intercepts:

y-intercepts:

5.) 4x + 12y = 60

x-intercepts:

y-intercepts:

6.) 4x + 5y = -80

x-intercepts:

y-intercepts:

Algebra 2

N:

Topic 2 // ⊥ and || lines // ***Practice B***

D: P: 1 2 3 4 5 6

→ Given the following line and point, find a parallel and perpendicular line for each

1.) $y = 3x + 6$ (6,3)

2.) $y = {}^{1}/_{5}x - 10$ (5,2)

3.) $y = -2x + 16$ (8,-3)

4.) $y = -3x + 8$ (12,1)

5.) $y = {}^{1}/_{5}x + 1$ (15,3)

6.) $y = -{}^{1}/_{3}x + 6$ (9,2)

Algebra 2

Topic 2 // Finding the Slope // ***Practice C***

N:

D:

P: 1 2 3 4 5 6

→ Finding the slope by using the slope formula. Show your work.

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

1.) (2, 4) (6, 8)

2.) (2, 4) (12, 24)

3.) (2, 3) (7, 9)

4.) (5, 1) (17, 6)

5.) (3, 7) (2, 9)

6.) (8, 3) (3, 5)

7.) (3, -2) (7-, 6)

8.) (-10, 24) (2, 2)

9.) (2, -3) (-7, 9)

Algebra 2

Topic 2 // Writing Equations // ***Practice D***

N:

D:

P: 1 2 3 4 5 6

$$m=\frac{(y_2-y_1)}{(x_2-x_1)} \longrightarrow y-y_1=m(x-x_1) \longrightarrow y=mx+b$$

Ex 1: **Write** the equation of a line and through (2, 3) and (3, 6)

Ex 2: **Write** the equation of a line with a slope of –**2** and through (-4,2)

Ex 3: **Write** the equation of a line with a slope of –**1/5** and through (-10,2)

Ex 4: **Write** the equation of a line and through (2, 3) and (5, -6)

Ex 5: **Write** the equation of a line with a slope of **3/4** and through (-16,4)

Ex 6: **Write** the equation of a line and through (1, 6) and (-5, -6)

Ex 7: **Write** the equation of a line and through (1, -6) and (8, 8)

Ex 8: **Write** the equation of a line with a slope of –**3** and through (-5,4)

Algebra 2

Topic 2 // Graphing // ***Practice E***

N:

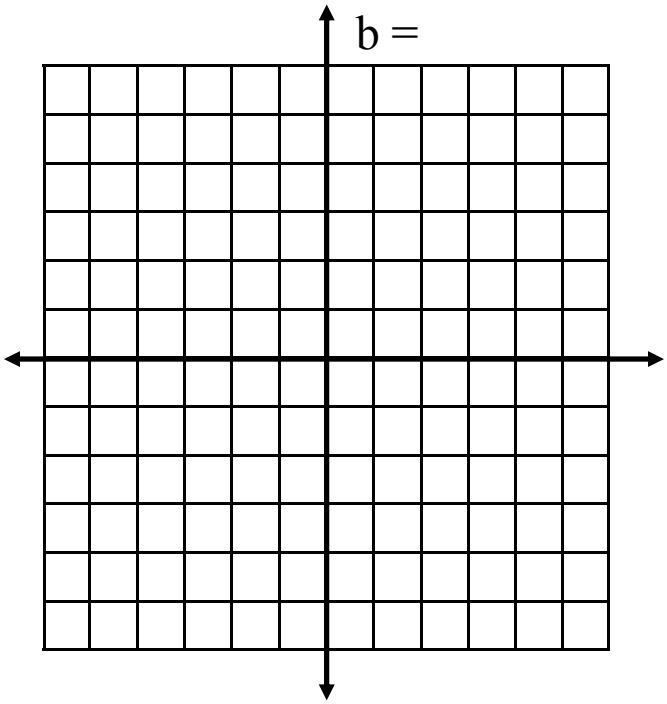
D:

P: 1 2 3 4 5 6

→ Graph the linear equations starting with y-intercept, then slope (rise / run)

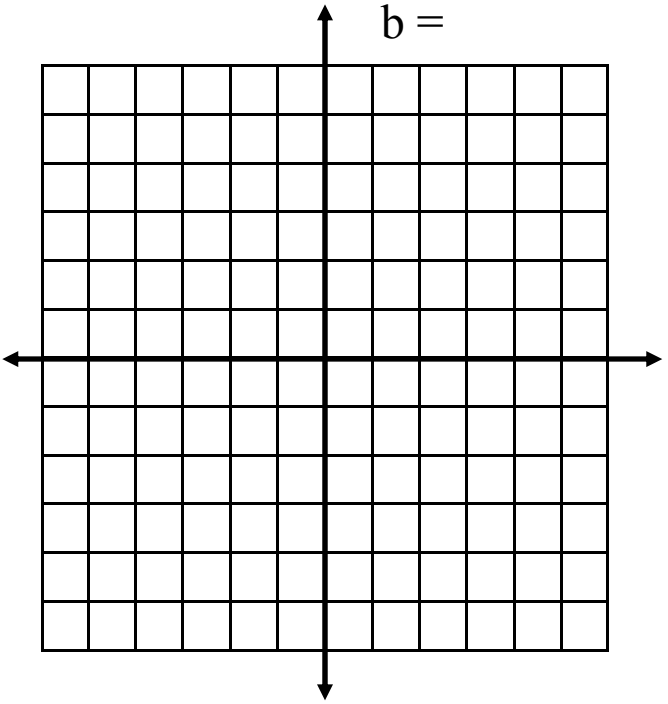
1.) $y = -7x + 4$ m =

b =



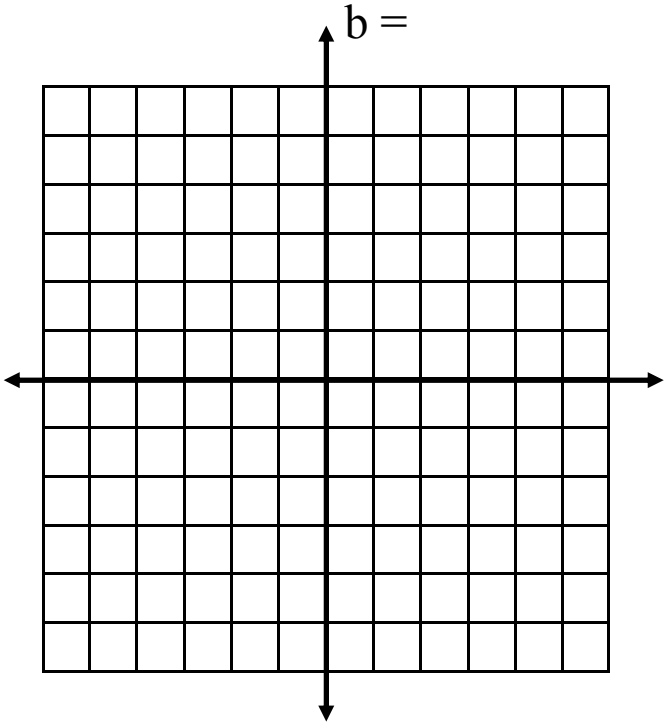
2.) $y = 2x + 3$ m =

b =



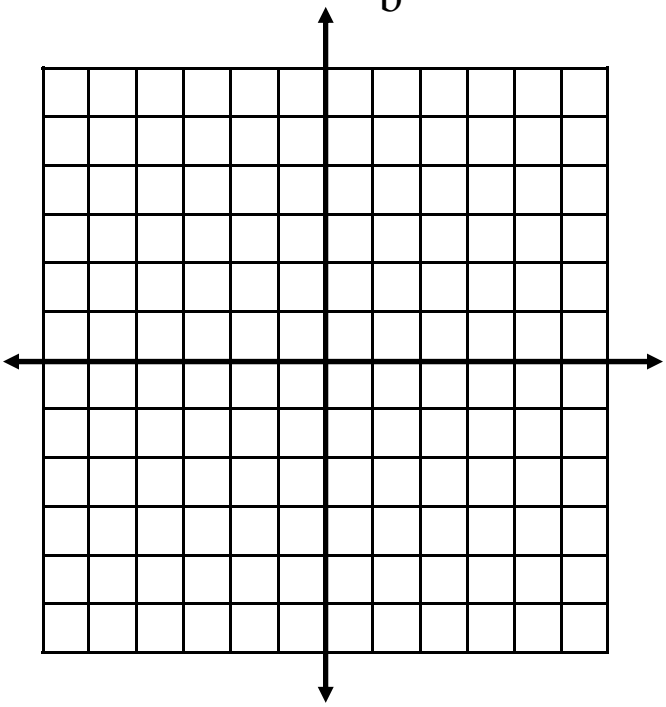
3.) $y = -4x + 2$ m =

b =

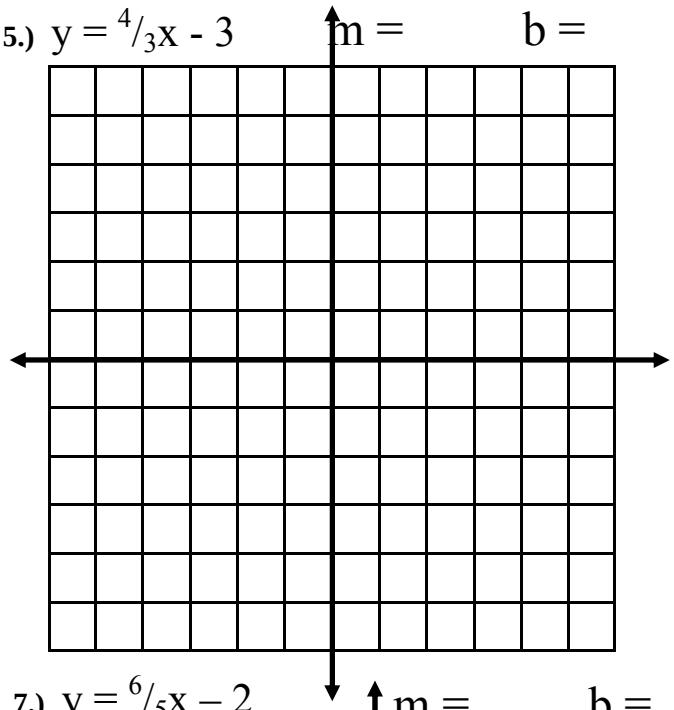


4.) $y = -\frac{4}{5}x + 1$ m =

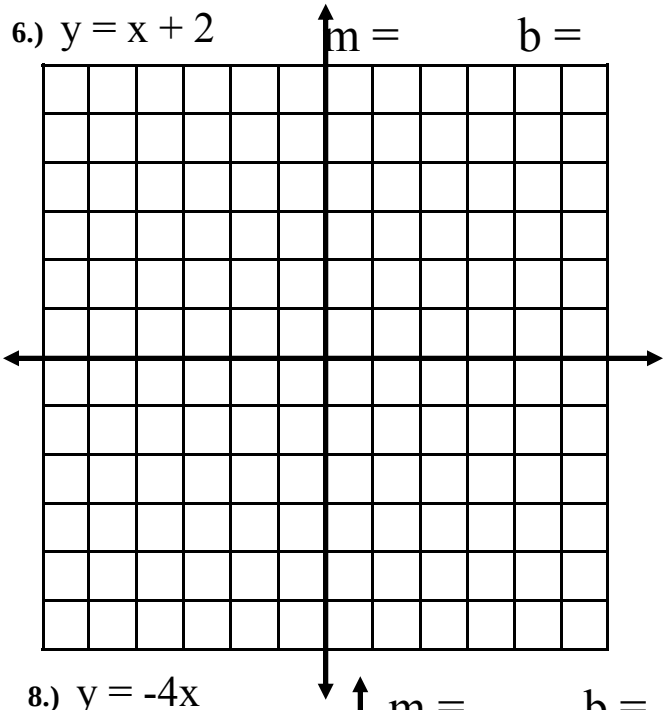
b =



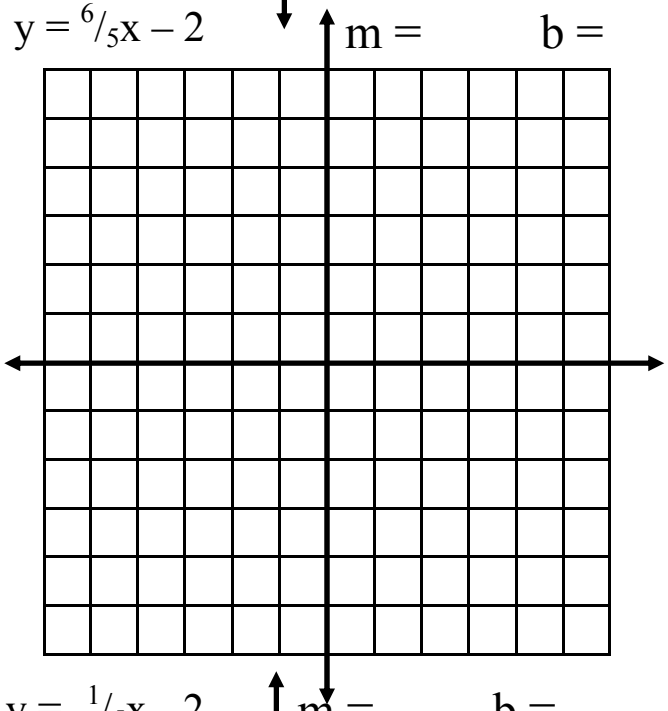
5.) $y = {}^{4}/_{3}x - 3$ m = b =



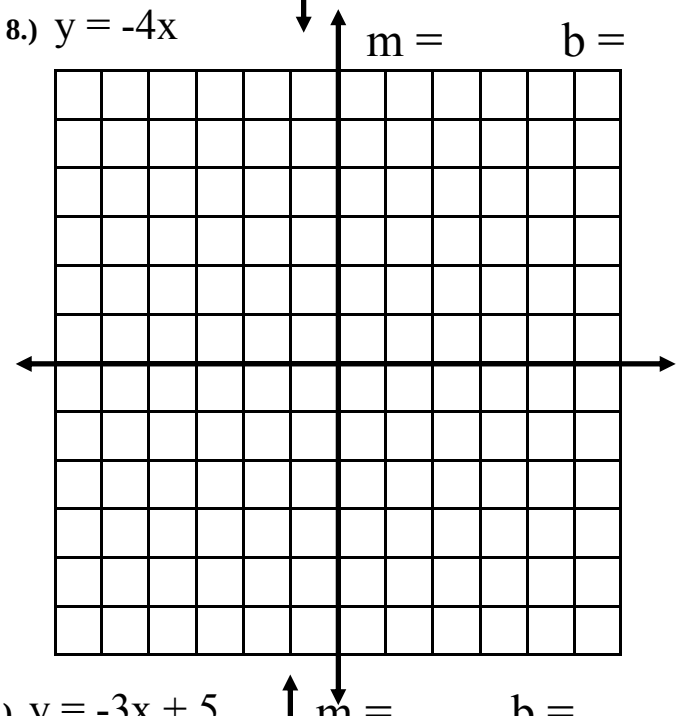
6.) $y = x + 2$ m = b =



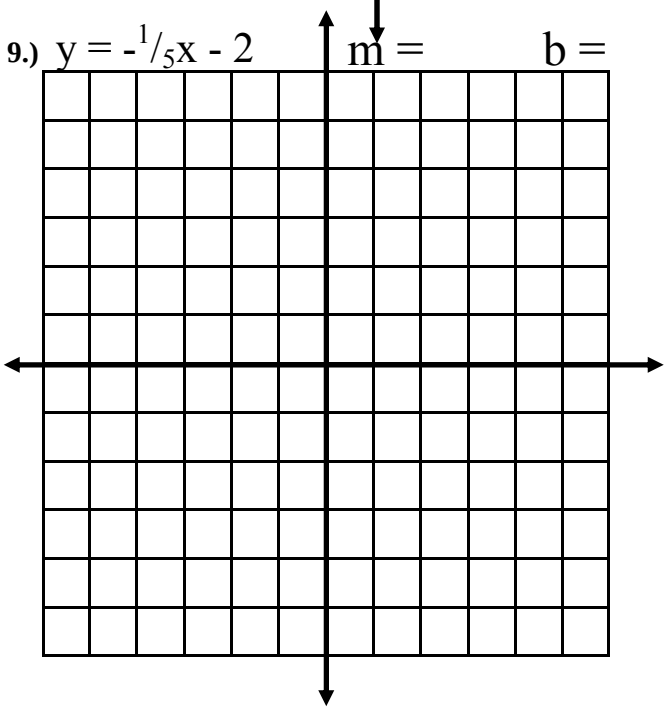
7.) $y = {}^{6}/_{5}x - 2$ m = b =



8.) $y = -4x$ m = b =



9.) $y = -{}^{1}/_{5}x - 2$ m = b =



10.) $y = -3x + 5$ m = b =