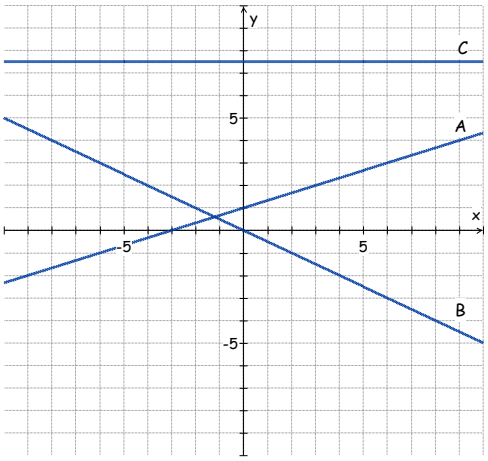
Lines, Lines and More Lines Name

1) (a) Find the **slope** and **y-intercept** then give the equation for each line shown.




| Line | Slope | y-intercept | Equation |
|---|---|---|---|
| A | | | |
| B | | | |
| C | | | |

(b) Graph and label each equation.

D $y = (5/2)x - 6$

E $y = \dfrac{-2x - 9}{3}$

F $-9x + 8y = 72$

2) Give the *slope* and *y-intercept* of each line.

(a) $y = \dfrac{-3x}{5} + 6$ (b) $y = \dfrac{5x - 12}{2}$ (c) $y = 4 - x$ (d) $3y - 4x = 24$

3) Convert to Slope-Intercept form: (a) $4x + 3y = 12$ (b) $7x - 5y = 25$

4) Convert to Standard-Integer form: (a) $y = (\frac{3}{4})x + 8$ (b) $y = (-\frac{5}{8})x - 12$

5) Find both intercepts: (a) $4x + 3y = 24$ (b) $y = (\frac{5}{8})x - 20$

6) Give the equations for the vertical and horizontal lines that cross at (5, 7).

7) Show that $x + y = 0$ and $x - y = 0$ intersect perpendicularly at the origin.

Determine equations for the following cases. Write your answers in *Slope-Intercept* form.

8) A line passing through (2.4, 1.9) & (-5.6, 9.5).

9) A line passing through (236, 726) & (-504, 911).

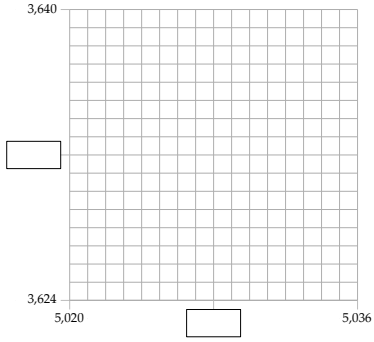
10) A line crossing the x-axis at -12 and the y-axis at -6.

11) A line passing through (-10, 12) and <u>parallel</u> to 8x – 12y = 15.

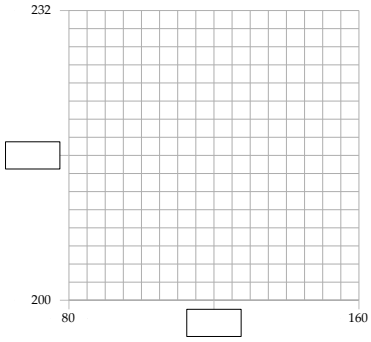
12) A line passing through (-6, 2) and <u>perpendicular</u> to y = (2/3)x + 6.

13) Determine the x-scale and y-scale then graph each equation in its proscribed region.

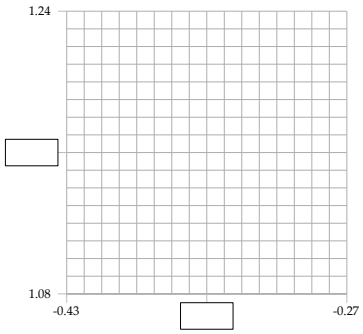
(a) y=1.625 x – 4533
[5020, 5036] × [3624,3640]




(b) y = -0.625 x + 280
[80,160] × [200,232]

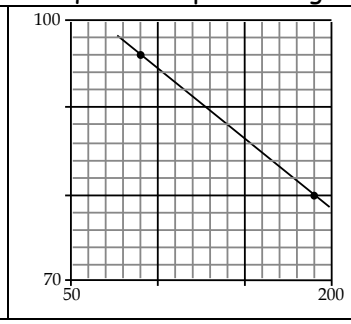



(c) -1200x + 1300y = 1884
[-0.43, -0.27] × [1.08,1.24]

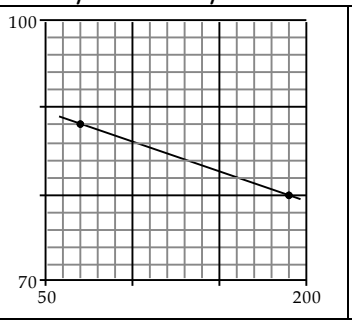



Find the equation representing these lines in *Slope Intercept* form.

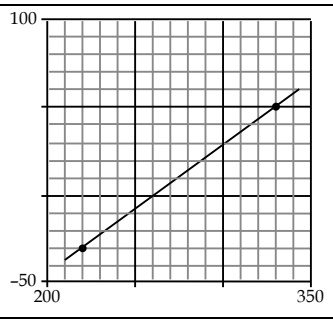
14)




18)




19)



Lines, Lines and More Lines  Name ANSWER KEY

1) (a) Find the **slope** and **y-intercept** then give the equation for each line shown.

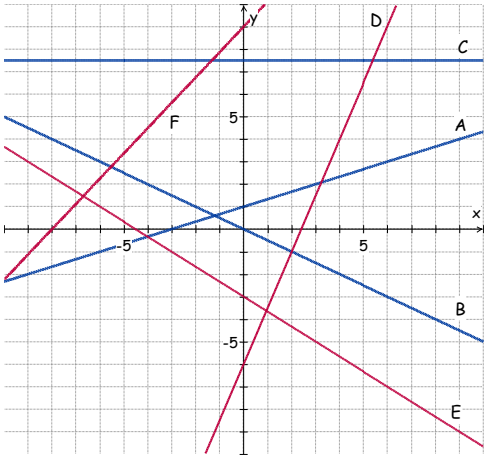
| Line | Slope | y-intercept | Equation |
|---|---|---|---|
| A | 1/3 | 1 | y = (1/3)x + 1 |
| B | -1/2 | 0 | y = (-1/2)x |
| C | 0 | 15/2 | y = 15/2 |

(b) Graph and label each equation.

D  $y = (5/2)x - 6$

E  $y = \frac{-2x - 9}{3}$

F  $-9x + 8y = 72$




2) Give the *slope* and *y-intercept* of each line.

(a) $y = \frac{-3x}{5} + 6$  m = -3/5, b = 6

(b) $y = \frac{5x - 12}{2}$  m = 5/2, b = -6

(c) y = 4 – x  m = -1, b = 4

(d) 3y – 4x = 24  m = 4/3, b = 8

3) Convert to Slope-Intercept form:

(a) 4x + 3y = 12  y = (-4/3)x + 4

(b) 7x – 5y = 25  y = (7/5)x – 5

4) Convert to Standard-Integer form:

(a) $y = (\frac{3}{4})x + 8$  3x – 4y = -32

(b) $y = (-\frac{5}{8})x - 12$  5x + 8y = -96

5) Find both intercepts:

(a) 4x + 3y = 24  (6, 0), (0, 8)

(b) $y = (\frac{5}{8})x - 20$  (32, 0), (0, -20)

6) Give the equations for the vertical and horizontal lines that cross at (5, 7).

Vertical line: x = 5, Horizontal line: y = 7

7) Show that x + y = 0 and x – y = 0 intersect perpendicularly at the origin.

$y_1 = -x \rightarrow m_1 = -1$, $y_2 = x \rightarrow m_2 = 1$. $(m_1)(m_2) = -1$ so $y_1$ & $y_2$ are perpendicular.

Determine equations for the following cases. Write your answers in *Slope-Intercept* form.

8) A line passing through (2.4, 1.9) & (-5.6, 9.5).

y = (-19/20)x + 209/50 or y = -0.95x + 4.18

9) A line passing through (236, 726) & (-504, 911).

y = (-1/4)x + 785

10) A line crossing the x-axis at -12 and the y-axis at -6.

y = (-1/2)x – 6

11) A line passing through (-10, 12) and <u>parallel</u> to 8x – 12y = 15.

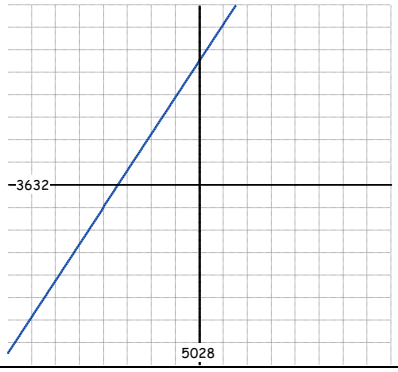
y = (2/3)x + 56/3

12) A line passing through (-6, 2) and <u>perpendicular</u> to y = (2/3)x + 6.

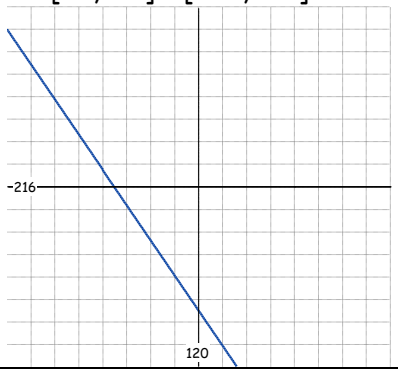
y = (-3/2)x – 7

13) Determine the x-scale and y-scale then graph each equation in its proscribed region.

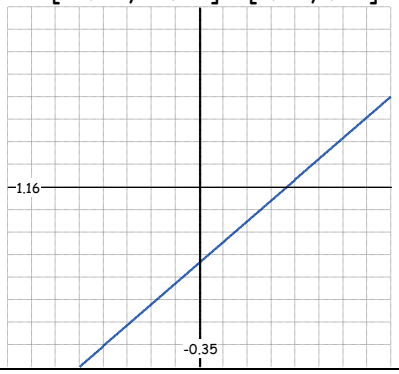
(a) y=1.625 x – 4533
[5020, 5036] × [3624,3640]




(b) y = -0.625 x + 280
[80,160] × [200,232]

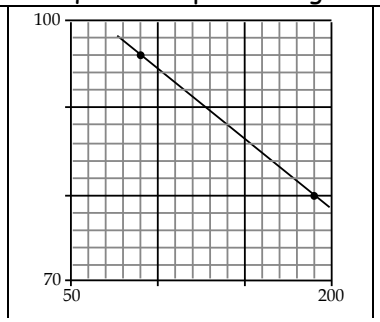



(c) -1200x + 1300y = 1884
[-0.43, -0.27] × [1.08,1.24]



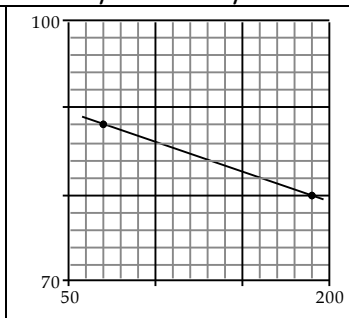

Find the equation representing these lines in *Slope Intercept* form.

15)



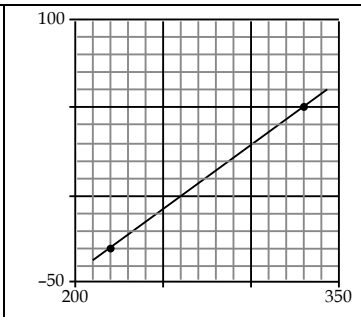

pts: (90, 96), (190, 80)
y = (-4/25)x + 552/5

18)




pts: (70, 88), (190, 80)
y = (-1/15)x + 278/3

19)




pts: (220, -30), (330, 50)
y = (8/11)x – 190