Name: Solutions

/20

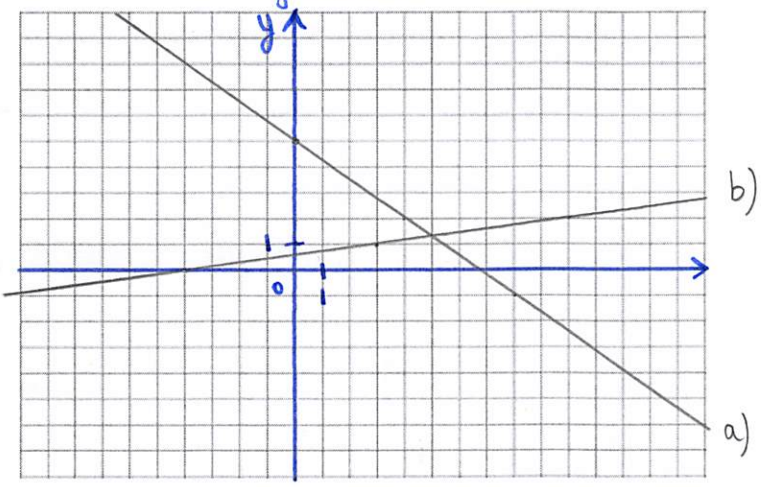
Math 10

QUIZ 6.3 – 6.5

1. Graph the following lines:

a) $y = -\frac{3}{4}x + 5$ slope: $-\frac{3}{4}$ y-int: 5

b) $y - 1 = \frac{1}{7}(x - 3)$ slope $\frac{1}{7}$ point (3, 1)



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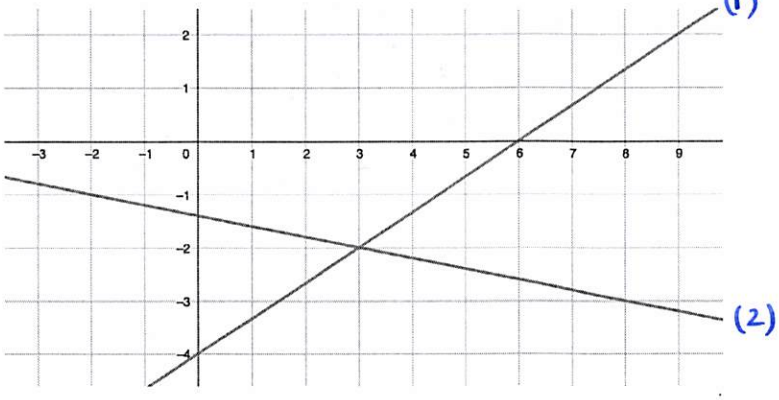
2. Determine an equation for each of the following lines:



(1) $y = \frac{2}{3}x - 4$

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

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

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

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3. If a line has equation $y - 3 = \frac{5}{3}(x + 2)$, its slope is $\frac{5}{3}$

and it passes through (-2 ; 3).

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4. Change this equation into slope-intercept form: $y + 3 = -\frac{1}{6}(x - 3)$

$y + 3 = -\frac{1}{6}x + \frac{1}{2}$

$y = -\frac{1}{6}x + \frac{1}{2} - \frac{6}{2}$

$\boxed{y = -\frac{1}{6}x - \frac{5}{2}}$

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5. Determine the y-intercept of the following lines:

a) $y = 3x - 5$

y-int: -5

b) $y + 1 = -\frac{5}{6}(x - 2)$

$y+1 = -\frac{5}{6}(0-2)$

$y+1 = \frac{10}{6}$

$y = \frac{5}{3} - 1$

y-int: $\frac{2}{3}$

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6. Determine the equation in slope-intercept form of the line with slope $\frac{1}{2}$ and passing through $(-2, 3)$,

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

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

$y = \frac{1}{2}x + 4$

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7. Determine an equation of the line passing through $A(1,5)$ and $B(-2,-3)$.

$m_{AB} = \frac{-3-5}{-2-1}$

$= \frac{8}{3}$

$y - 5 = \frac{8}{3}(x-1)$ or $y+3 = \frac{8}{3}(x+2)$

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8. Determine algebraically the x and the y-intercepts of the line with equation $y = -\frac{3}{5}x + 6$

y-int: 6

x-int: $0 = -\frac{3}{5}x + 6$

$\frac{3}{5}x = 6$

$x = \frac{30}{3}$

x-int: 10

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9. The student council sponsored a dance. A ticket cost \$5 and the cost for the DJ was \$300.

a) Write an equation for the profit P dollars, on the sale of t tickets.

$P = 5t - 300$

b) Suppose 123 people bought tickets. What was the profit?

$P(123) = 5 \times 123 - 300$

$= \$315$

c) Suppose the profit was \$350. How many people bought tickets?

$350 = 5t - 300$

$650 = 5t$

$t = \frac{650}{5}$

$t = 130$ tickets sold.

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