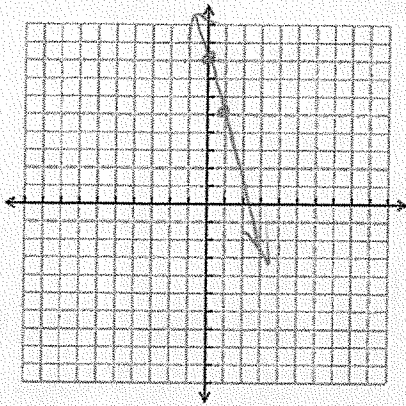


DAY 5 - Standard Form of a Line versus Slope Y-int Form

Rearrange into slope y-intercept form, then sketch

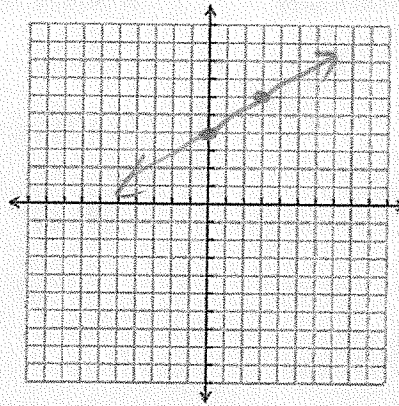
1. $3x + y - 8 = 0$

$y = -3x + 8$
 $m = -\frac{3}{1}$ $b = 8$



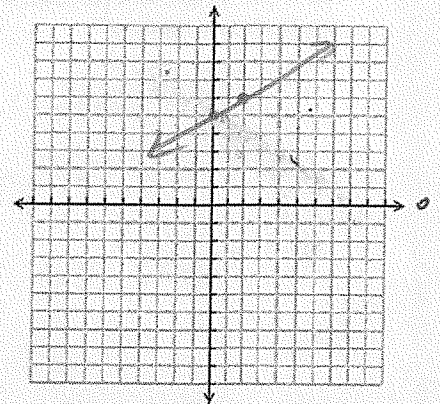
2. $2x - 3y + 12 = 0$

$2x + 12 = 3y$
 $\frac{2}{3}x + 4 = y$
 $m = \frac{2}{3}$ $b = 4$



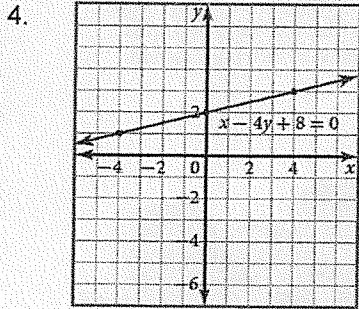
3. $x - 2y + 10 = 0$

$x + 10 = 2y$
 $\frac{1}{2}x + 5 = y$
 $m = \frac{1}{2}$ $b = 5$



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From the graph locate the slope and y-int then record the equation in slope y-int form. Then convert to standard form and check with the given equation in the picture.



y-int = 2

slope = $\frac{1}{4}$

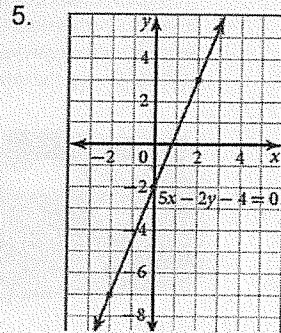
equation in slope y-int form:

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

Convert to standard form

$4y = x + 8$

$4y - x - 8 = 0$



y-int = -2

slope = $\frac{5}{2}$

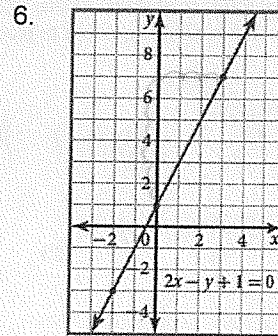
equation in slope y-int form:

$y = \frac{5}{2}x - 2$

Convert to standard form

$2y = 5x - 4$

$2y - 5x + 4 = 0$



y-int = 1

slope = $\frac{2}{1} = 2$

equation in slope y-int form:

$y = 2x + 1$

Convert to standard form

$y - 2x - 1 = 0$

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7. The line $3x + 4y + C = 0$ passes through $(1, 2)$. Find the value of C .

$$3(1) + 4(2) + C = 0$$

$$3 + 8 + C = 0$$

$$11 + C = 0$$

$$C = -11$$

8. The line $y = 4x + b$ passes through $(8, -3)$. Find the value of b .

$$-3 = 4(8) + b$$

$$-3 = 32 + b$$

$$-35 = b$$

9. A banquet hall charges according to the equation $C = 25n + 250$, where C represents the total cost in dollars to rent the hall, and n represents the number of people attending the event. If the total cost to rent the hall for a particular event was \$3375, how many people attended the event?

$$3375 = 25n + 250$$

$$3125 = 25n$$

$$125 = n$$

\therefore 125 ppl attended

10. Dawson knows that the formula for the perimeter of a rectangle is $P = 2l + 2w$. He has 180 m of fencing to enclose a rectangular play area with a maximum width of 32 m. What is the minimum length of the play area? Explain.

$$180 = 2L + 2(32)$$

$$180 = 2L + 64$$

$$116 = 2L$$

$$58 = L$$

\therefore min length is 58 m

11. Mr. Singh has \$300 in a savings account that pays 0.5% per year simple interest. In the equation $A = 300 + (0.005 \times 300)n$, A represents the total amount in Mr. Singh's account in dollars, and n represents the number of years. At this rate, how long will it take for the balance in Mr. Singh's account to reach \$375?

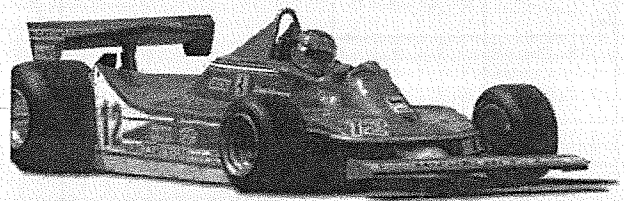
$$375 = 300 + 1.5n$$

$$75 = 1.5n$$

$$50 = n$$

\therefore it takes 50 yrs,

12. Dwight is a racecar driver. He knows the distance an object travels can be found using the formula $d = vt + \frac{1}{2}at^2$, where d represents the distance travelled in metres, v represents the starting speed in metres per second, t represents the time interval of the trip in seconds, and a represents the acceleration in metres per second squared during the interval.



Dwight travels 53 000 m by accelerating at 24 m/s^2 for 30 s from a fixed starting speed. What is Dwight's starting speed?

$$53000 = v(30) + \frac{1}{2}(24)(30)^2$$

$$53000 = 30v + 12(900)$$

$$53000 = 30v + 10800$$

$$42200 = 30v$$

$$1406.7 \text{ m/s} = v$$

is the speed at the start.

(6+2)

(12)