9. Pedro began the year with $500 in his bank account.

- The amount of money in his account decreased linearly.
- After 2 months, he had $450 dollars left in his account.
- After 7 months, he had $325 dollars left in his account.

Write a function that could model the amount of money in his bank account after x months.

$y = -25x + 500$

b

$y = mx + b$

$(2, 450)(7, 325)$

$m = \frac{325 - 450}{7 - 2}$

$m = \frac{-125}{5} = -25$

10. Water is being pumped into a 12 foot cylindrical tank at a constant rate.

- The depth of the water is increasing linearly.
- At 2:00pm, the water depth was 4.3 feet.
- At 4:30pm, the water depth was 7.8 feet.

What will the depth of the water be at 5:00 pm?

$(2, 4.3)(4.5, 7.8)$

$m = \frac{7.8 - 4.3}{4.5 - 2} = \frac{3.5}{2.5}$

$m = 1.4$

$1.4 \frac{ft}{hr}$

$\frac{0.7 ft}{30 min.}$ $7.8 + 0.7$

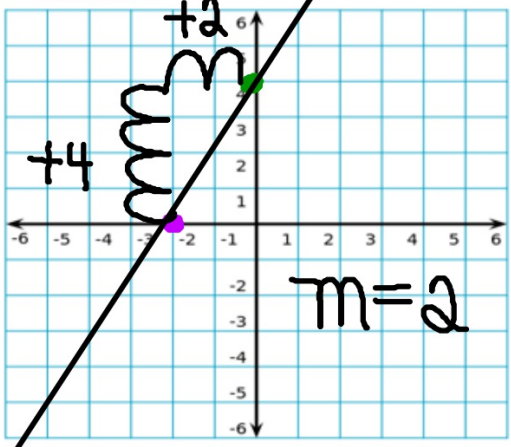
$8.5 ft$

11. The function $a(n) = 4n + 2$ represents the value of the nth term of a sequence. What is the sum of the 2nd and 4th terms of the sequence?

nth term	a(n)
0	2
1	6
2	10
3	14
4	18

10+18
28

12. Draw a graph with a y-intercept of 4 and an x-intercept of -2. What is the slope of this line?



(0,4)(-2,0)

13. Sammie compared the cost of purchasing gas at two different gas stations.

- The function $C(g) = 2.75 + .25g$ models the average cost of a gallon of gas at the first gas station after x months.
- The table below shows the average cost of a gallon of gas at the second gas station after different numbers of months.

2	\$3.30
4	\$3.60
6	\$3.90

+2 +.30
+2 +.30
y-int.!

Which had a higher initial cost? Station 2

Which had a higher cost per month? slope!

Station 1

m=.25 b=2.75

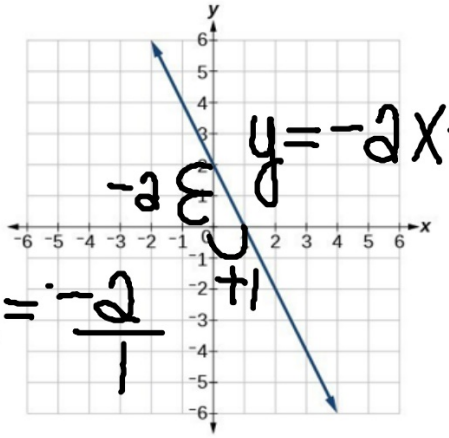
m=.15 b=3

14. The graph below represents John's savings per week.

How much did John already have saved? \$30 y-int

How much does John save per week? \$5 slope!

15. Write an equation for the graph below.



$y = -2x + 2$

$-2 \in$

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

$+1$

16. What is the slope of the given table?

X	Y
2	3
5	9
6	11
8	15
10	19

$+3 \left(\quad \right) + 6$

$m = 2$