

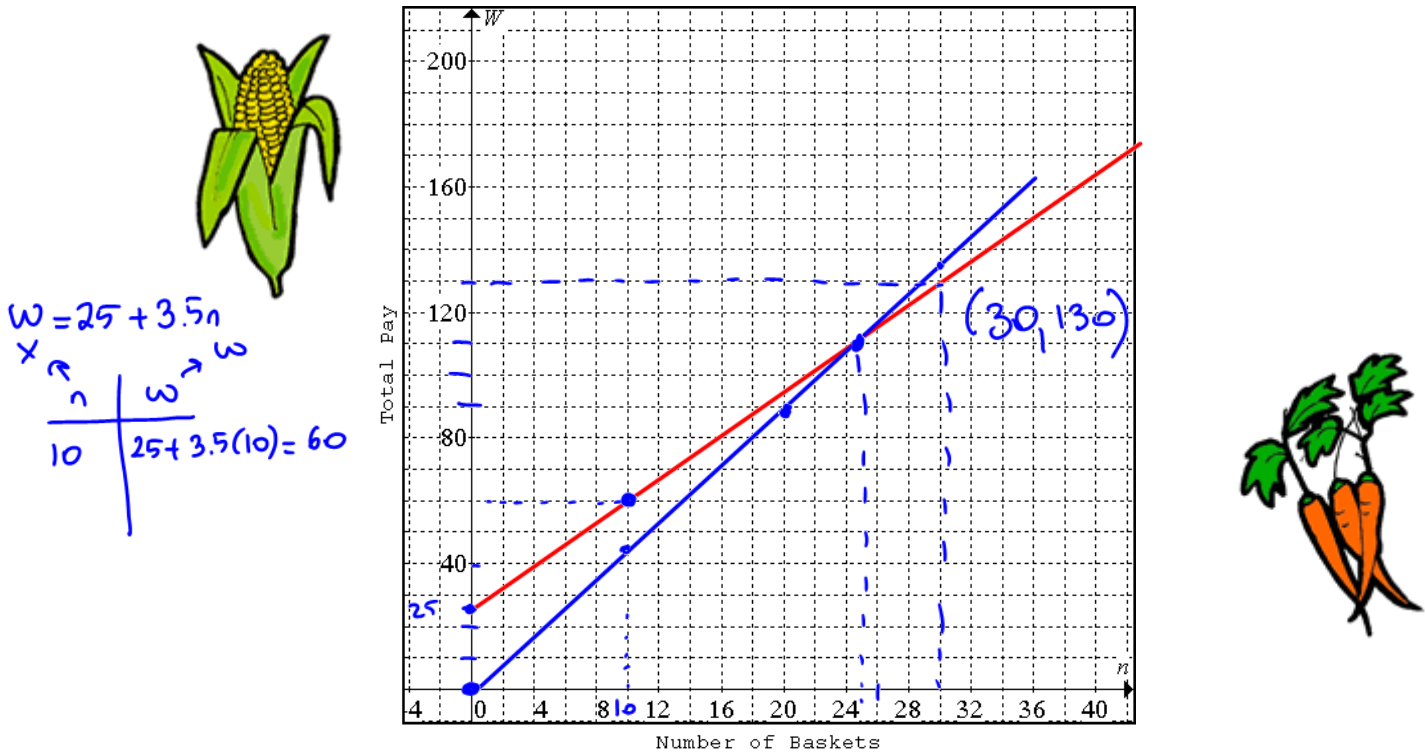
Mathematics 9
The Holland Marsh

Date: _____

Many vegetables are grown in the Holland Marsh, just north of Newmarket. Each summer, farmers in the Marsh area hire vegetable pickers.

Geraldo works picking carrots and his daily pay is based on the equation $W = 25 + 3.5n$ where 'n' is the number of baskets he picks.

- a) Graph the relationship represented by the equation given.



- b) What is the slope of the line? 3.5
- c) What does the slope represent in this question? rate of change of pay over # of baskets
- d) How many baskets would Geraldo have to pick to earn \$130 in a day?
- i) Answer using the graph. baskets
- ii) Solve algebraically in the space below:

$$W = 25 + 3.5n$$

Sub 130 for w

$$130 = 25 + 3.5n$$

$$130 - 25 = 3.5n$$

$$\frac{105}{3.5} = \frac{3.5n}{3.5}$$

$n = 30$

- e) The farmer has offered Geraldo a different pay rate of just \$4.50 per basket with no initial pay. Use the graph to show whether Geraldo should accept this offer. Explain your reasoning.

$W = 4.5n$ If Geraldo collect 25 baskets or less, he should go with the first offer; however, if collects more than 25 baskets, 2nd offer is better.

- f) In your notebooks, calculate the coordinates of the break-even point as a check to your work above.

$$4.5n = 25 + 3.5n$$

$$4.5n - 3.5n = 25$$

$$n = 25$$

$w = 4.5n$
 $= 4.5(25)$
 $= \$112.5$

(25, 112.5)