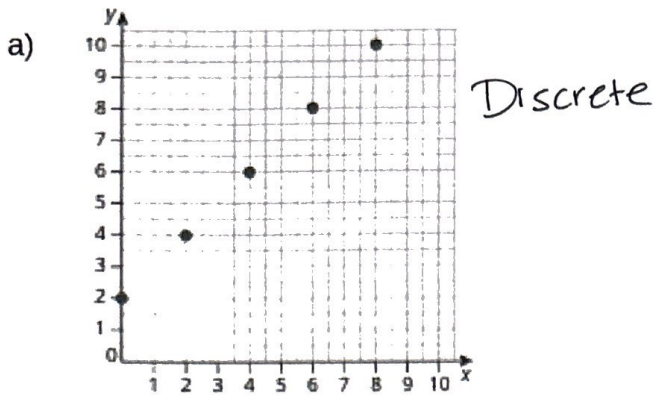
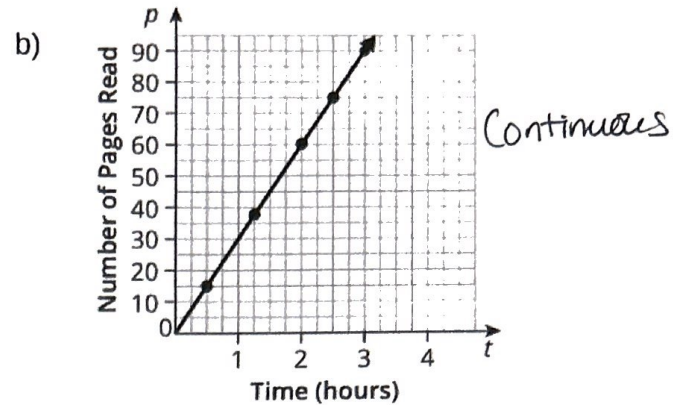


## M1 T2 Part 2 Study Guide Proportionality

1) Does the graph show a proportional relationship? Explain why or why not.

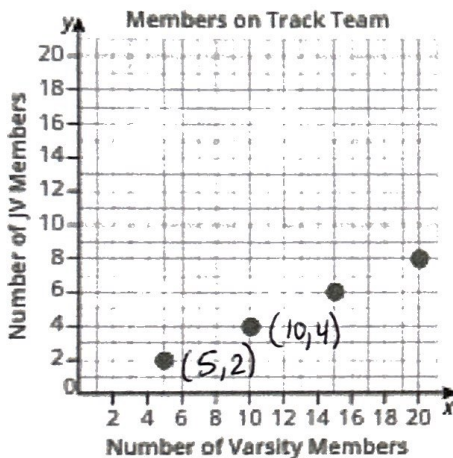


Not proportional because it doesn't start at the origin



Proportional.  
Starts at the origin and forms a straight line

2) Analyze the graph and use it to answer the following questions:



a) What are the coordinates (x,y) of the point that represent the unit rate?  
 $\frac{2}{5} = \frac{\frac{2}{5}}{1}$  (1,  $\frac{2}{5}$ ) or (1, 0.4)

b) Write the unit rate in its fraction form.  $\frac{2}{5}$  JV members  
1 varsity member

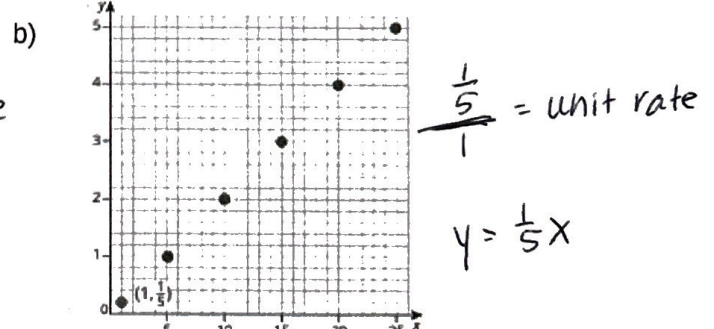
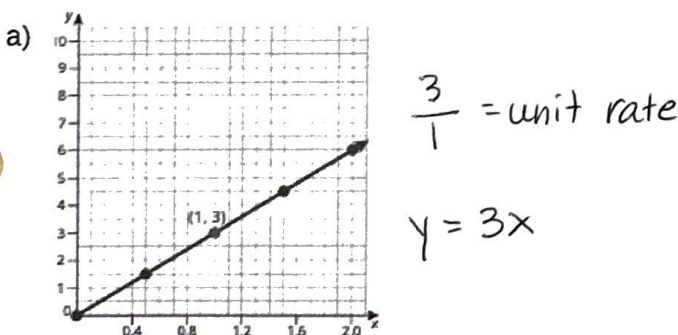
c) Write the equation of the line. (use the form  $y = kx$ )

$$y = \frac{2}{5}x \quad \text{or} \quad y = 0.4x$$

d) Should this data/graph be discrete or continuous?

discrete. You can't have a partial person

3) Find the unit rate and write an equation for each graph:



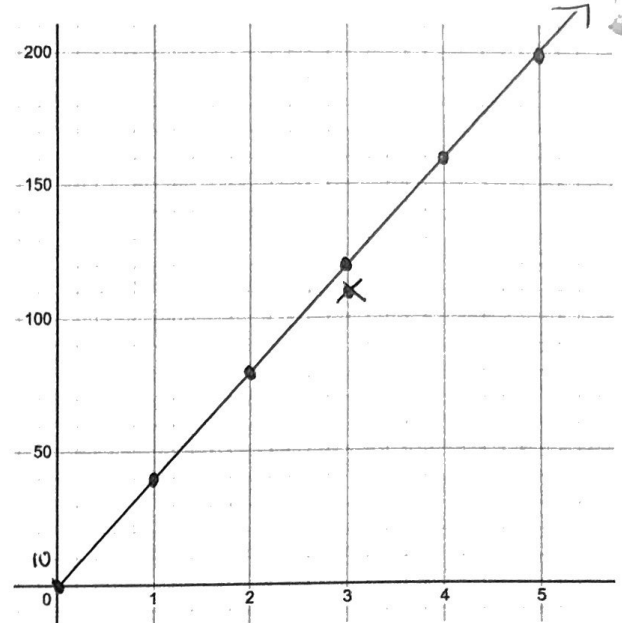
4) Complete the table, the graph, and write the equation of the line:

a) You are on a train traveling 200 miles in 5 hours.

(Label the X and Y axes on your graph)

| x | y   |
|---|-----|
| 0 | 0   |
| 1 | 40  |
| 2 | 80  |
| 3 | 120 |
| 4 | 160 |
| 5 | 200 |

Distance (miles)  
 $5 \overline{) 200} \begin{array}{r} 40 \\ \underline{200} \\ 0 \end{array}$



Equation of the line:

$$y = 40x$$

Unit Rate:  $\frac{40 \text{ mi}}{1 \text{ hr}}$

b) You pay \$18 for 4 lbs of ground turkey.

(Label the X and Y axes on your graph)

| x | y                       |
|---|-------------------------|
| 0 | 0                       |
| 1 | $4\frac{1}{2}$ or 4.5   |
| 2 | 9                       |
| 3 | $13\frac{1}{2}$ or 13.5 |
| 4 | 18                      |

$$4 \overline{) 18} \begin{array}{r} 4 \\ \underline{16} \\ 2 \end{array}$$

Equation of the line:

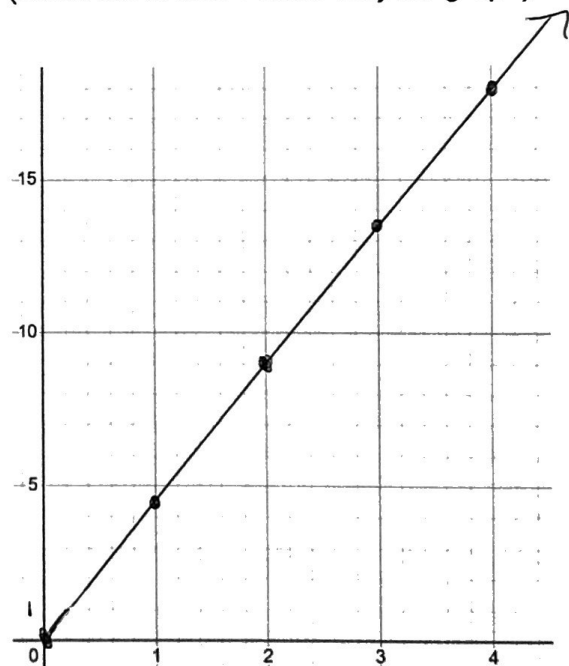
$$y = 4\frac{1}{2}x$$

$$y = 4.5x$$

$$y = \frac{9}{2}x$$

Unit Rate:  $\frac{\$4.50}{1 \text{ lb}}$

Cost (\$)



Weight (pounds)

5) Analyze the values in the tables to determine whether they represent proportional relationships:

- If proportional, write the constant of proportionality AND the equation of the line
- If not proportional, write "NP" AND explain your reasoning

a)

| x | y  |
|---|----|
| 2 | 16 |
| 3 | 24 |
| 4 | 32 |
| 5 | 40 |

$\frac{16}{2} = 8$   
 $\frac{24}{3} = 8$   
 $\frac{32}{4} = 8$   
 $\frac{40}{5} = 8$

$k = 8$

Equation =  $y = 8x$

b)

| x | y  |
|---|----|
| 2 | 4  |
| 4 | 6  |
| 6 | 8  |
| 8 | 10 |

$\frac{4}{2} = 2$   
 $\frac{6}{4} = \frac{3}{2}$   
 $\frac{8}{6} = \frac{4}{3}$   
 $\frac{10}{8} = \frac{5}{4}$

$k = \text{NP}$

Equation =

The  $\frac{y}{x}$  ratios are not all equivalent so  $k$  can't be determined.