

Constant of Proportionality Stations

Name Key

Station 1:

1) Constant 3

Equation $y = 3x$

NOT PROPORTIONAL
2) Constant ~~1000~~ N/A
Equation ~~$y = 1000x$~~ N/A

3) Constant -2

Equation $y = -2x$

4) Constant 2.5

Equation $y = 2.5x$

Station 2:

1) Equation $c = 0.10n$

2) Equation $g = 1.5m$

Station 3:

1) Proportional? no

k _____

Equation _____

2) Proportional? yes

k $0.\bar{3}$

Equation $y = 0.\bar{3}x$

3) Proportional? no

k _____

Equation _____

Station 4:

Yes or No

1) Yes

2) Yes

3) No

4) Yes

Station 5:

Student A

Equation $y = 7.5x$

Station 6:

1) D, E, G, H

2) B, F, G, H

Station 7:

1) Equation $y = 2.05x$

2) Equation $y = 11x$

29 minutes = 319 calories burned

Station 8:

1) Equation $y = 3.5x$

2) Equation $y = -3.25x$

Station 9:

A 420

B 11 hours

$4620 = 420x$

Station 10:

Number of cookies	1	3	20	100	50	150	175	230	525
Cost (in dollars & cents)	0.83	\$2.49	16.60	83	41.50	124.50	\$145.25	\$190.90	435.75

1) You have decided to run in a long distance race. There are two teams that you can join. Team A runs at a constant rate of 2.5 miles per hour. Team B runs 4 miles the first hour and then 2 miles per hour after that. Task: Create a table for each team showing the distances that would be run for times of 1, 2, 3, 4, 5 and 6 hours.

Team A	
Time (hrs)	Distance (miles)
1	2.5
2	5
3	7.5
4	10
5	12.5
6	15

Team B	
Time (hrs)	Distance (miles)
1	4
2	6
3	8
4	10
5	12
6	14

2) For which team is distance proportional to time? Explain your reasoning.

Team A $k = 2.5$

3) Explain how you know distance for the other team is not proportional to time.

y/x is not equal throughout table

4) If the race were 2.5 miles long, which team would win? Explain.

Team B, fast rate in beginning 4 miles

5) If the race were 3.5 miles long, which team would win? Explain.

Team B

6) If the race were 4.5 miles long, which team would win? Explain.

Team B

7) For what length race would it be better to be on Team B than Team A? Explain

4 hrs or less 10 miles or less

8) Using this relationship, if the members on the team ran for 10 hours, how far would each member run on each team?

Team A: 25 miles Team B: 22 miles

9) Will there always be a winning team, no matter what the length of the course? Why or why not?

Tie at 4 hours/10 miles

10) If the race is 12 miles long, which team should you choose to be on if you wish to win? Why would you choose this team?

Team A, b/c less than 5 hours

11) How much sooner would you finish on that team compared to the other team?

$$12 = 2.5x$$

$$4.8 \text{ hrs vs } 5 \text{ hrs}$$

0.2 hours sooner

or

12 min.