### 1.3 Proportional Graphs

## MATH 7

Write your questions here!


SUMMARY:


Pacman traveled 18 feet every 6 seconds.
Pacman's distance traveled is proportional to time.

| Time <br> (seconds) | Distance <br> $($ feet $)$ |
| :---: | :---: |
| 0 |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |



Explain what the point $(3,9)$ means in this situation.

## Graphs are proportional if

Find the constant of proportionality!



Are the graphs proportional?



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In each graph, determine if $\boldsymbol{y}$ is proportional to $\boldsymbol{x}$. Explain why or why not.
1.


Proportional? YES or NO
Explanation:
4.


Proportional? YES or NO
Explanation:
2.


Proportional? YES or NO
Explanation:
5.


Proportional? YES or NO
Explanation:
3.


Proportional? YES or NO
Explanation:
6.


Proportional? YES or NO
Explanation:

Find the constant of proportionality (unit rate). Express as fraction in simplest form.

$k=$ $\qquad$
8.

$k=$ $\qquad$
9.

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## Use the graph answer the questions.

10. Mr. Kelly loves the school lunch pizza from the cafeteria. The graph shows the costs of the cafeteria pizza.
a. Find the constant of proportionality. $k=$ $\qquad$
b. Use a sentence to explain what the constant of proportionality means in this situation.

c. Fill in the table.
d. Explain what the point $(2,8)$ means in this situation.
e. Circle the point below that represents the unit rate in this situation.
$(0,0)$
$(1,4)$
$(2,8)$
$(4,16)$

| Pizzas <br> $(\#)$ | Cost <br> (dollars) |
| :---: | :---: |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |

11. Mr. Sullivan loves to bake cakes (Sully Cakes). The graph shows how many cakes Sully bakes.
a. Find the constant of proportionality. $k=$ $\qquad$
b. Use a sentence to explain what the constant of proportionality means in this situation.

c. Fill in the table.
d. Explain what the point $(8,6)$ means in this situation.
e. How many cakes will Sully bake in 12 hours?

| Time <br> (hours) | Cakes <br> (\#) |
| :---: | :---: |
| 0 |  |
| 1 |  |
| 4 |  |
| 8 |  |

## For 1 and 2, use the graph shown to the right.

1. Find the constant of proportionality.

$$
k=
$$

2. Use a sentence to explain what the constant of proportionality means in this situation.

3. The graph shows the relationship between the ounces of olive oil bought at a market and the total cost of the olive oil.

Select EACH statement about the graph that is true.
SELECT ALL that apply.
a. The point $(0,0)$ shows the cost is $\$ 0.00$ for 0 ounces of oil.
b. The point $(2,1)$ shows that 1 ounce of oil costs $\$ 2.00$
c. The point $(4,2)$ shows the cost is $\$ 4.00$ for 2 ounces of oil.
d. The point $(4,2)$ shows the cost is $\$ 2.00$ for 4 ounces of oil.

e. The point $(1,0.5)$ shows the cost is $\$ 0.50$ for 1 ounce of oil.

## EXIT TICKET -

Neptune loves to swim. He swims 9 laps in 2 minutes.
Which graph represents Neptune?


