

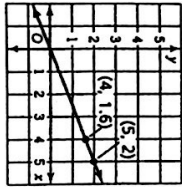
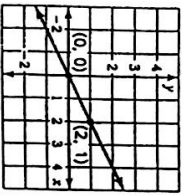
Name _____
Block _____

Proportions, Unit Rate and Similar Figures TEST

Write the ratio as a fraction in simplest form.

- 18 red buttons : 12 blue buttons
- 30 inches to 3 inches
- 108 feet per 3 seconds
- 360 miles per 12 gallons

Are the graphs proportional?



Tell whether the ratios form a proportion.

7. $\frac{1}{8}, \frac{4}{32}$
8. $\frac{2}{3}, \frac{10}{30}$

Use the table to write a proportion.

Monday	Tuesday	
Dollars	42	56
hour	6	h

Series 1	Series 2	
games	9	6
Wins	4	3

Solve the proportion.

11. $\frac{x}{2} = \frac{40}{16}$
12. $\frac{3}{11} = \frac{27}{z}$

13. MUSIC DOWNLOAD The amount of time needed to download music is shown in the table. Find the rate in megabytes per second.

Minutes	2	4	6	8
Megabytes	4	8	12	16

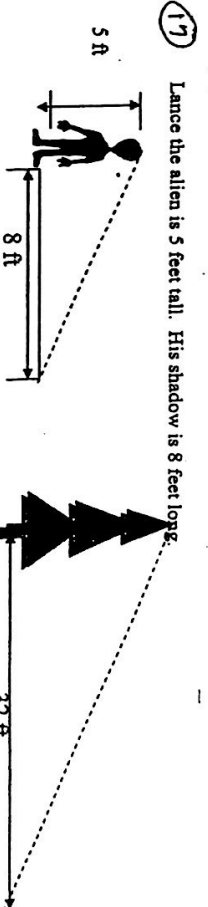
14. GAMING You advance 3 levels in 15 minutes. Your friend advances 5 levels in 20 minutes. Are these rates proportional? Explain.

15. CLASS TIME You spend 150 minutes in three classes. Write and solve a proportion to find how many minutes you spend in five classes.

16. CONCERT A benefit concert with three performers lasts 8 hours. At this rate, how many hours is a concert with four performers?

Answers

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20



At the same time of day, a tree's shadow is 32 feet long. What is the height of the tree?

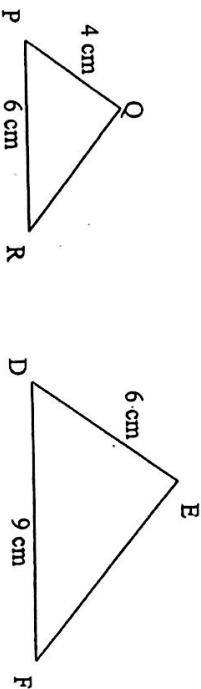
- 20 feet
- 24 feet
- 29 feet
- 51 feet

18. Pentagon JKLMN is similar to pentagon VWXYZ.

What is the measurement of angle X?

- 30°
- 60°
- 150°
- 120°

19. Triangle PQR is similar to triangle DEF as shown.



Which describes the relationship between the corresponding sides of the two triangles?

- EXPLAIN why.
- $\frac{PQ}{DE} = \frac{4}{6}$
 - $\frac{PQ}{DE} = \frac{4}{4}$
 - $\frac{PQ}{EF} = \frac{4}{9}$
 - $\frac{PR}{DE} = \frac{6}{6}$

20. A six-foot-tall person is standing next to a flagpole. The person is casting a shadow $1\frac{1}{2}$ feet in length.

while the flagpole is casting a shadow 5 feet in length. How tall is the flagpole?

- 30 ft
- 25 ft
- 20 ft
- 15 ft