

4.2.1  
Math 7

I can decide whether two quantities are in a proportional relationship (RP2A)	0	1	2	3	4
SMP #3 Construct viable arguments and critique the reasoning of others	0	1	2	3	4

0	1	2	3	4
0	1	2	3	4

Read each new situation below.

Decide whether you think the relationship described is **proportional** or **non-proportional** and justify your reasoning. Be prepared to share your decisions and justifications with the class.

- a. Carlos wants to buy some new video games. Each game he buys costs him \$36. Is the relationship between the number of games Carlos buys and the total price proportional?

Proportional or Non-Proportional Why? \_\_\_\_\_

- b. A single ticket to a concert costs \$56, while buying five tickets costs \$250. Is the relationship between the number of tickets bought and the total price proportional?

Proportional or Non-Proportional Why? \_\_\_\_\_

- c. Vu is four years older than his sister. Is the relationship between Vu and his sister's age proportional?

Proportional or Non-Proportional Why? \_\_\_\_\_

- d. Janna runs at a steady pace of 7 minutes per mile. Is the relationship between the number of miles she ran and the distance she covered proportional?

Proportional or Non-Proportional Why? \_\_\_\_\_

- e. Carl just bought a music player and plans to load 50 songs each week. Is the relationship between the number of weeks after Carl bought the music player and the number of songs on his player proportional?

Proportional or Non-Proportional Why? \_\_\_\_\_

- f. Anna has a new video game. It takes her five hours of playing the game to master level one. After so much time, Anna understands the game better and it only takes her three hours of playing the game to master level two. Is the number of hours played and the game level proportional?

Proportional or Non-Proportional Why? \_\_\_\_\_

Check whether the following problems are true proportions and be sure to prove your answer (show all work). Also, state your answer in a complete sentence.

1.  $\frac{10}{7} = \frac{70}{49}$

2.  $\frac{3}{12} = \frac{14}{48}$

3.  $\frac{9}{20} = \frac{117}{260}$

4.  $\frac{135}{120} = \frac{9}{8}$

Proportional

Proportional

Proportional

Proportional

Non-Proportional

Non-Proportional

Non-Proportional

Non-Proportional

2.

Solve for x so the following problems are true proportions and be sure to prove your answer (show all work). Also, state your answer in a complete sentence.

5.  $\frac{18}{5} = \frac{x}{15}$

6.  $\frac{a}{4} = \frac{15}{20}$

Solve the following problems and be sure to prove your answer (show all work). Answer the question the problem asks in a complete sentence.

7. If a seven-pound turkey takes four hours to cook, how long will a fourteen pound turkey take to cook?

8. An 18-ounce cereal box costs \$3.00. How many ounces should a box priced at \$2.00 cost?