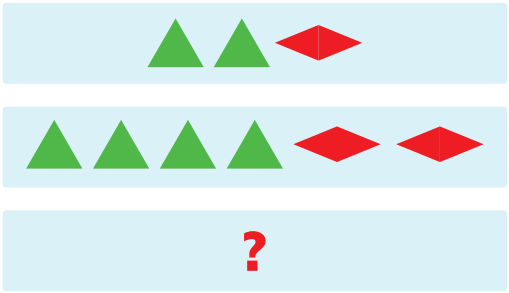
Understand the concept of a ratio and use the ratio language to describe a ratio relationship between two quantities. Explore equivalent ratios and use equivalent ratio tables to compare ratios. CCSS.MATH.CONTENT.6.RP.A.1 | US_EN_05_MAT_C53_WS_m1

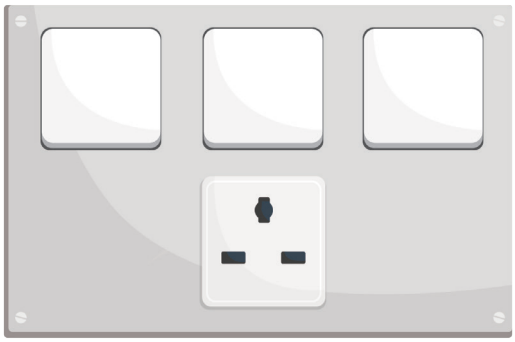
Ms. Spanner wants to make some modifications in the gaming truck after she received certain feedback from her customers. Let's see what modifications she needs to make.

1 One of the older systems in the trucks uses patterns. Check the box that corresponds to the pattern that will be formed next.



- ☐ 6 triangles & 2 diamonds
- ☐ 2 triangles & 6 diamonds
- ☐ 6 triangles & 3 diamonds
- ☐ 3 triangles & 6 diamonds

2 Ms. Spanner decides to increase the number of gaming systems in the truck. 1 switchboard connects to 3 systems. If we increase the number of switchboards to 3, how many systems can we install? Write your answer in the boxes below.

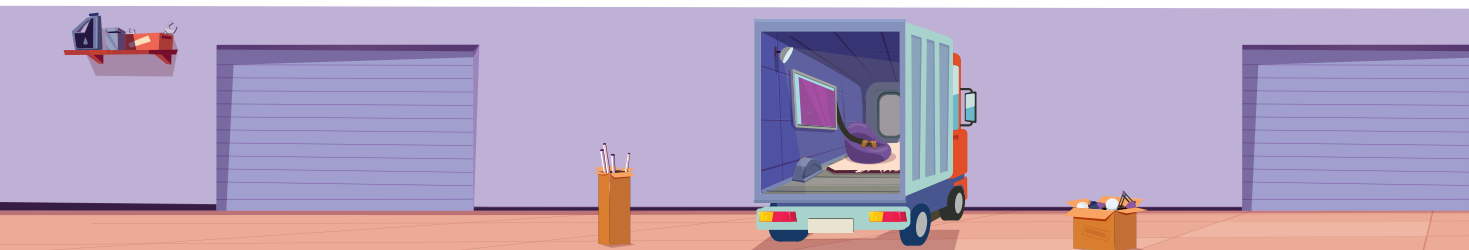


Number of systems for 1 switchboard = ☐

Number of systems for 3 switchboards = ☐

The ratio of number of switchboards to the number of systems installed = $\frac{\text{Number of switchboards}}{\text{Number of systems installed}}$

$= \frac{\square}{\square} = \square : \square$



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3

A joystick has:
- 4 square-shaped buttons
- 4 circular buttons
- 2 analog buttons

Based on this data, match the following statements with their correct ratios:

Ratio of number of square-shaped buttons to the total number of buttons	●	● 1:5
Ratio of number of analog buttons to the fit total number of buttons	●	● 2:5
Ratio of number of analog buttons to number of circular buttons	●	● 1:2

4

A soccer came can run on 4 of the gaming systems but can't run on the other 3. Circle the correct option that expresses the ratio of the number of gaming systems which cannot run the game to the total number of gaming systems.

3:4 4:7 4:3 3:7

5

The table given below shows the cost for playing games in the truck. Complete the table using equivalent ratios that express a relationship between the cost and time.

Hint: The price increases by $5 when the time increases by 2 h.

Price (in $)	5	10		20
Time (in h)	2		6	

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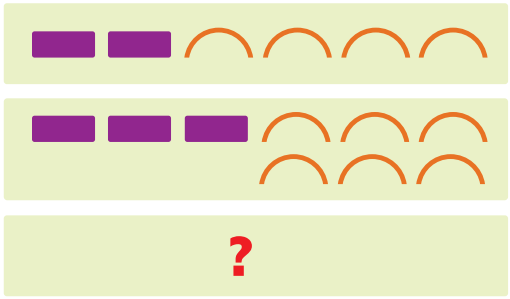
After the modifications are made, the gaming truck is ready to welcome new gamers.

1 A child plays a pattern-based game. He completes the first two levels and is stuck on the third level. Circle the correct option to help the child complete the third level.



- ☐ 4 rectangles & 10 arcs
- ☐ 4 rectangles & 14 arcs
- ☐ 4 rectangles & 12 arcs
- ☐ 4 rectangles & 8 arcs

2 Two friends, A and B, play a soccer match. Friend A scores 6 goals whereas Friend B scores 8 goals. Express the statements below as ratios. Write your answer in the boxes given below.

Goals scored by Friend A to goals scored by Friend B = ☐ : ☐

Goals scored by Friend A to goals scored by Friend B in the simplest form = ☐ : ☐

The ratio of goals scored by Friend B to the total number of goals scored in the match = ☐ : ☐☐ = ☐ : ☐

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3 There are certain games in the gaming system which are more popular than the rest. The list below shows the games and the number of gamers playing it. Answer the questions that follow. Write your answers in the boxes given below.

Games	No. of gamers
Xen-44	8
Wrestling Mania	12
Super Cars	10

a What is the ratio of the number of gamers playing Xen-44 to the number of gamers playing Super Cars?

= ☐ : ☐☐

= ☐ : ☐

b What is the ratio of number of gamers playing Wrestling Mania to the total number of gamers?

☐☐ : ☐☐ = ☐ : ☐

c Circle the ratio(s) of number of gamers playing Super Cars to the total number of gamers?

3:1 2:6 6:2 1:3

4 The following table shows the time taken by a player to complete the laps in a racing game. Fill in the values in the table using equivalent ratios. Write your answers in the boxes given below

Hint: Observe the relation between number of laps and time as shown in the first 2 columns of the table.

Laps	5	10	15	☐☐
Time (in min)	15	30	☐☐	☐☐

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Ms. Spanner's gaming truck has been attracting a lot of visitors. She decides to open a food truck next to the gaming truck to expand her business. Help her set it up.

1 Follow the guidelines below to determine the number of food items and beverages that will be served in the food truck.

Guidelines:

- The number of food items are between 15 and 30, inclusive.
- The number of beverages are between 5 and 10, inclusive.
- The number of food items and beverages are both multiples of 5.

Number of food items = ☐☐

Number of beverages = ☐☐

Ratio of number of food items to the number of beverages

= ☐☐ : ☐☐

= ☐ : ☐

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2 Find the ratio of number of food items to the total number of food items and beverages.

Ratio of number of food items to the total number of food items and beverages = ☐☐ : ☐☐

= ☐ : ☐

3 Find the ratio of number of beverages to the total number of food items and beverages.

Ratio of number of beverages to the total number of food items and beverages = ☐☐ : ☐☐

= ☐ : ☐

4 Based on the ratios, find the number of food items that will be served if there are 2 beverages.

Number of food items that will be served = ☐☐

Congratulations! Ms. Spanner is grateful for the work that you put in. Her new food truck is booming with customers.