

# Division Fact Strategies

## GOAL

Use strategies to relate unknown facts to known facts.



Desmond received a deck of 48 *Hwa-Yu* cards (Korean flower cards) as a gift. There were no instructions with the cards, so Desmond decided to invent a game.

Here are 2 of his rules:

- All players start with the same number of cards.
- There must be fewer than 10 players, and each player must have fewer than 10 cards.



**How many players can play Desmond's game with the 48 cards if there are no leftover cards?**





## Desmond's Division

I need to divide the 48 cards into equal groups.  
I'll look for pairs of numbers that I can multiply together to make 48.  
6 players can play my game.



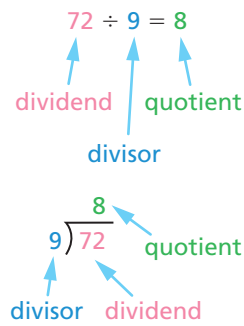
- A.** If 6 players play the game, how many cards will each player have?
- B.** Desmond's array shows another possible number of players. What is it?
- C.** What 2 multiplication facts does Desmond's array show?
- D.** What 2 division facts does Desmond's array show?
- E.** How can you use skip counting by 5s to show that there cannot be 5 players?
- F.** Could there be other numbers of players (less than 10) with no leftover cards? Explain how you know.

### Reflecting

- G.** Why is creating an array a useful way to figure out a division fact?
- H.** Suppose you know that  $9 \times 6 = 54$  or that  $6 \times 6 = 36$ . How can you use either of these facts to solve the problem about the 48 cards?

## Communication Tip

When you talk about your division equations, it might help to recall the names of the parts.



## Checking

1. If Desmond's game used 36 cards instead of 48 cards, how many players could play his game? Use arrays.
2. What multiplication fact can you use to solve  $32 \div 4 = \square$ ?

## Practising

3. Sketch an array to complete each division equation.
  - a)  $18 \div 2 = \square$
  - b)  $49 \div 7 = \square$
  - c)  $24 \div 4 = \square$
  - d)  $42 \div 6 = \square$
  - e)  $35 \div 7 = \square$
  - f)  $56 \div 8 = \square$
4. You can use multiplication facts to solve division equations. List two division equations for each fact below.
  - a)  $4 \times 7 = 28$
  - b)  $3 \times 9 = 27$
  - c)  $5 \times 8 = 40$
  - d)  $7 \times 5 = 35$
5. A 300 mL bottle of oil has 0 g of trans fat. The oil is divided equally into several other containers.
  - a) How many grams of trans fat are in each container?
  - b) Write an equation you can solve to answer part a) if there are four containers.
  - c) Does your answer for part a) depend on the number of containers? Explain your thinking.
6.
  - a) Explain how you know that  $5 \times 0 = 0$ .
  - b) Use your explanation for part a) to explain why  $0 \div 5 = 0$ .
  - c) Write a multiplication equation that you think you can use to calculate  $5 \div 0 = \square$ .
  - d) Is it possible to calculate  $5 \div 0 = \square$ ? Explain why or why not.
  - e) Is it possible to divide any number by 0? Use multiplication facts to show why or why not.
7. Sketch an array to show that  $4 \times 10 = 40$ . Use your array to solve each equation.
  - a)  $40 \div 4 = p$
  - b)  $40 \div 5 = a$
  - c)  $s = 40 \div 8$

