

MATHS MISSION

Grand Final Day

 YOUR ROLE: TRIP ORGANISER Your Mission

Grand Final day is the biggest day of the year here — everyone wants to go.

75 people from your school want a ride. You're the Trip Organiser: work out how many vehicles are needed, and how much the trip will cost altogether.

 Before You Begin

- Why might it cause a problem if transport isn't planned properly before Grand Final day?
- If a vehicle carries 14 people, how many people can 4 vehicles carry altogether?

 *Talk with a partner: how do you think people usually get to the Grand Final?*

 Background

Grand Final day is one of the biggest football days of the year in many communities — people travel from all over to watch it. Getting transport right matters: too few vehicles and people get left behind; too many and money is wasted.

 Step 1 – How Many Vehicles?

75 people want to go. Each vehicle safely carries 14 people, including the driver.

Work out how many full vehicles of 14 you can make, and how many people are left over.

Vehicles	People Carried
1	14
2	28
3	42
4	56
5	70

- How many people are left over after 5 vehicles?
 - Can you leave them behind? What do you need to do instead?
 - So how many vehicles are actually needed?
-  *Compare your answer with a partner. Did you both get the same number of vehicles?*

 Step 2 – Working Out the Cost

The running cost for the round trip is \$45 per vehicle.

Use the number of vehicles from Step 1 to work out the total cost.

- Total cost = number of vehicles × \$45
- Show your working:

 Step 3 – Sharing the Cost Fairly

Everyone travelling chips in an equal share — not just the drivers.

Divide the total cost by 75 to find each person's fair share.

- Each person's share = total cost $\div$ 75
- Round your answer to the nearest 10 cents.

Make a Decision

How many vehicles should be booked for Grand Final day?

- ☐ 5 vehicles
- ☐ 6 vehicles
- ☐ Some other number — explain

Explain your decision using your working from Step 1.

: _____

: _____

Mission Challenge

It's the wet season. The road is muddy, so each vehicle can only safely carry 10 people, not 14.

Redo your working for the new capacity.

Vehicles	People Carried
6	60
7	70
8	80

How many vehicles are needed now, and what is the new fair share per person? Has your decision changed?

: _____

Extension Challenge

Write a rule that works out the number of vehicles needed for any number of people, if one vehicle seats 14.

What is your rule?

 *Talk with a partner before you write your rule.*

My idea: _____

Community Connection

Trips like this happen often in many communities — for football, ceremonies, school, or shopping.

- Grand Final day
- A ceremony or funeral
- A school trip
- A shopping trip

Think of a real trip your family or community has organised. How did people decide who travelled with who?

: _____

Reflection

Circle how you felt about today's mission:

 Confident  Mostly understood  Needed some help  Found it difficult

What was tricky about deciding what to do with the 'leftover' people?

: _____

Bonus Challenge

You're in charge of transport for the whole footy season. Write one tip for saving money on fuel across the season.

: _____

: _____