

WonderHere[🤔]
↓

WORLD
TRAVELER

MATH

PROJECT

COMPREHENSIVE



World Traveler Math Project

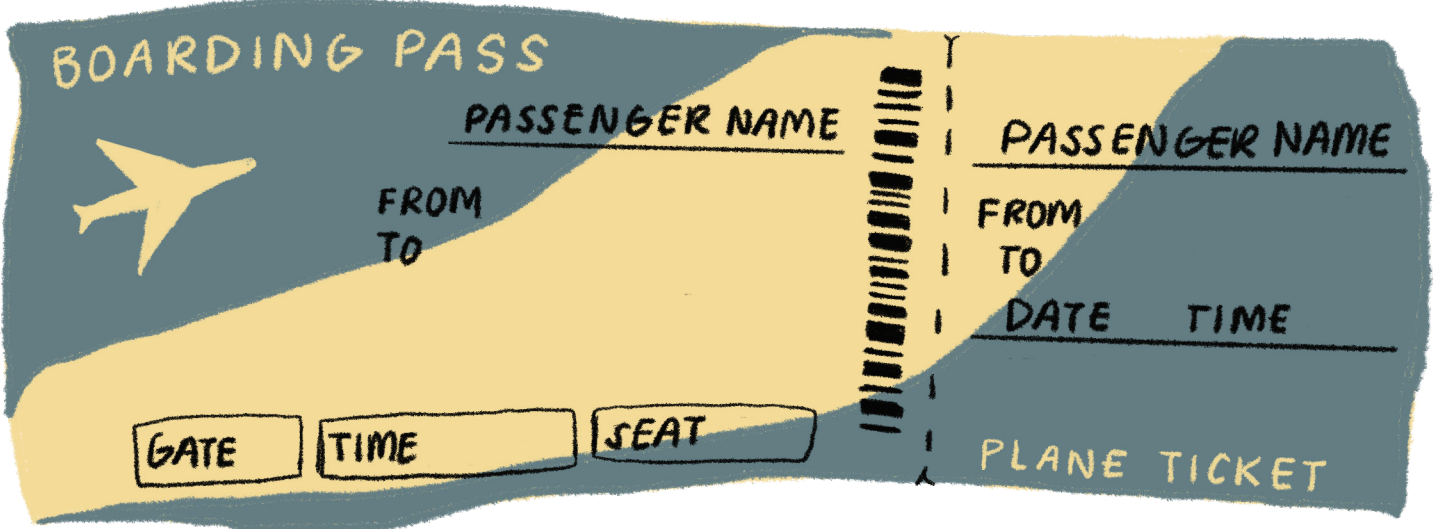
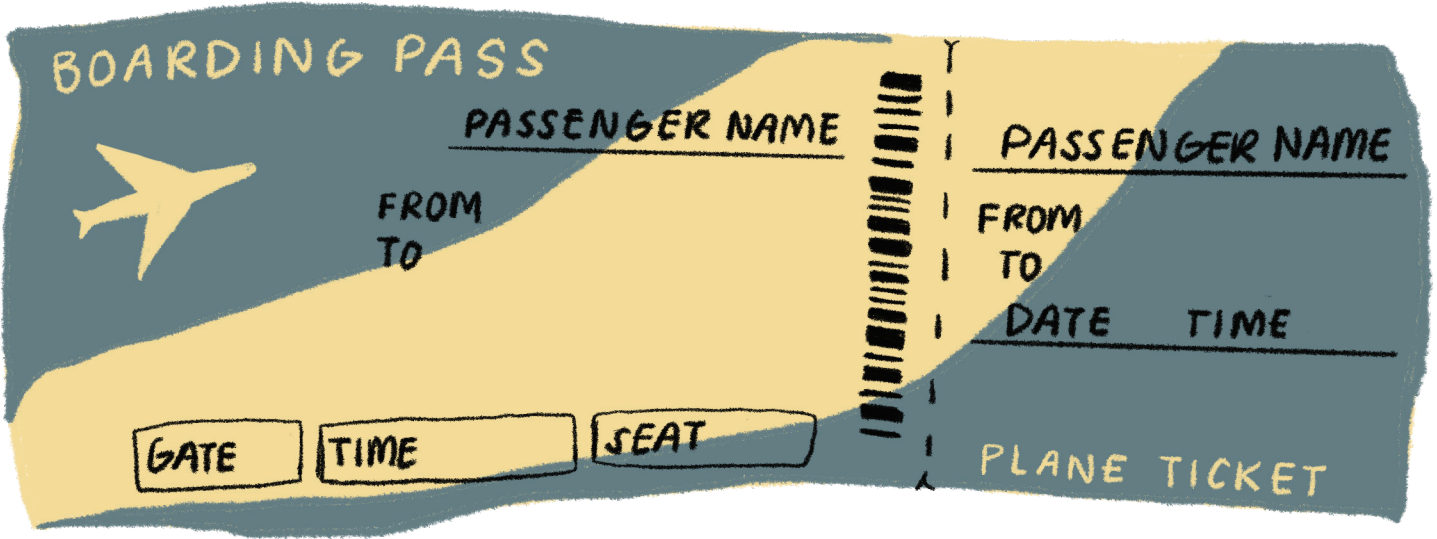
Introduction

As you spend this unit learning about different places around the world, YOU will become a world traveler! And did you know? World travelers need to have some important math skills up their sleeves to make their travels smooth sailing! For the next six weeks, you will be preparing for your big trip by reading maps, understanding the distances you are traveling, budget for your trip, pack an imaginary bag, and so much more! Math is everywhere. Let's use it to take a TRIP!

TASK 1: Map Out Your Journey!

The world is WIDE OPEN! Where do you want to go? Cross the ocean and let's discover someplace new! Using a blank plane ticket, fill it out once you have chosen your destination. Plot your current location and your destination. Draw a straight line between your two points to track your distance.



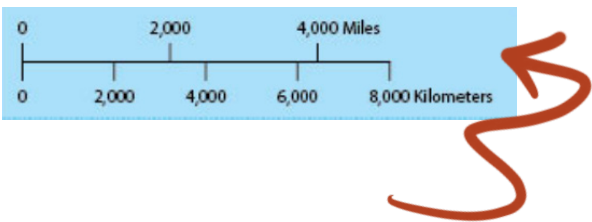


TASK 2: Scale

Instructions: : Locate the scale (see RED arrow below) on the map. Use this scale to answer the following questions regarding your travel distance between your current location and desired destination.

How does a map scale work?

Map scale refers to the ratio between distance on a map and the consequent distance on the ground (actual distance). Example: 1:100000 scale map, 1cm on the map equals 1km on the ground (actual distance).



Based on your selected board pass

Current Location: _____ **Destination:** _____

1. Look at the scale at the bottom of the map (see the RED arrow). Explain the scale using a ratio of INCHES : MILES. Explain your thinking.

Work Space

Explanation: _____

2. Using your ruler, figure out the distance on the map between your current location and your destination in INCHES.

3. Using this information, how can you use math to figure out how to convert the distance from inches to miles?

Explanation: _____

Solve:

Work Space

A large, empty rectangular box with a thin black border, intended for the student to show their work. It occupies the majority of the page below the 'Work Space' label.

TASK 3: Destination Investigation

Instructions: A commercial aircraft cruises at about 460-575 miles per hour (mph). Using this information, and your previously gained knowledge about your distance between your current location and destination, figure out about how many hours is your travel time. Round to the nearest hour. Explain your thinking and show your work in your workspace

1. What is your current location?

2. Where is your desired destination?

3. Why did you select this destination?

4. Research flights with your specific to/from information. Decide when you will depart and when you will return home.

5. What airline will you be traveling with?

6. What time will you depart?

7. What time will you land?

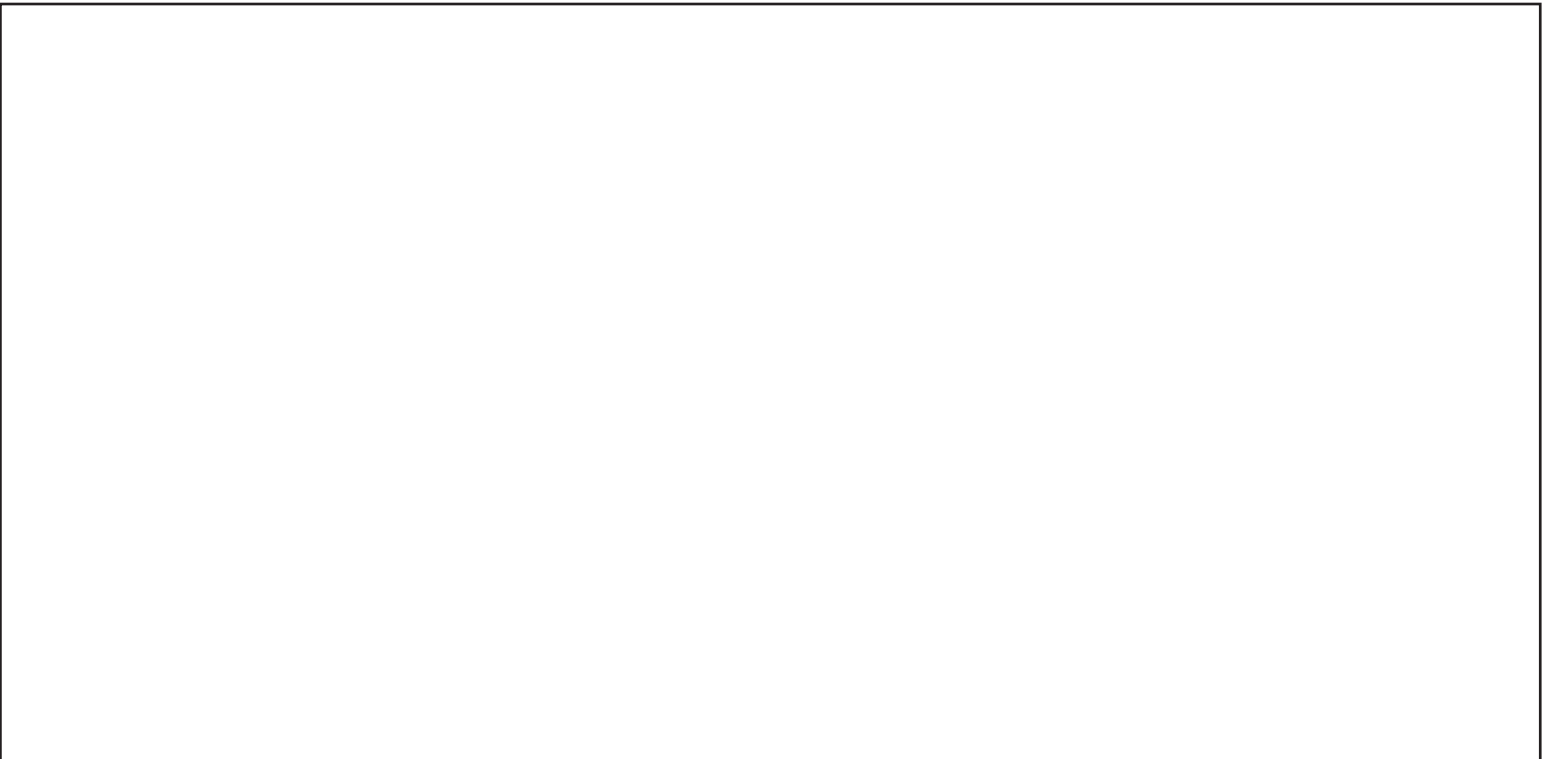
8. Are there any layovers? If so, when and where?
 - a. Figure out the distance traveled between each location (if there are layovers) using your map and the scale.
 - b. How much time passes between each stop?

Work Space



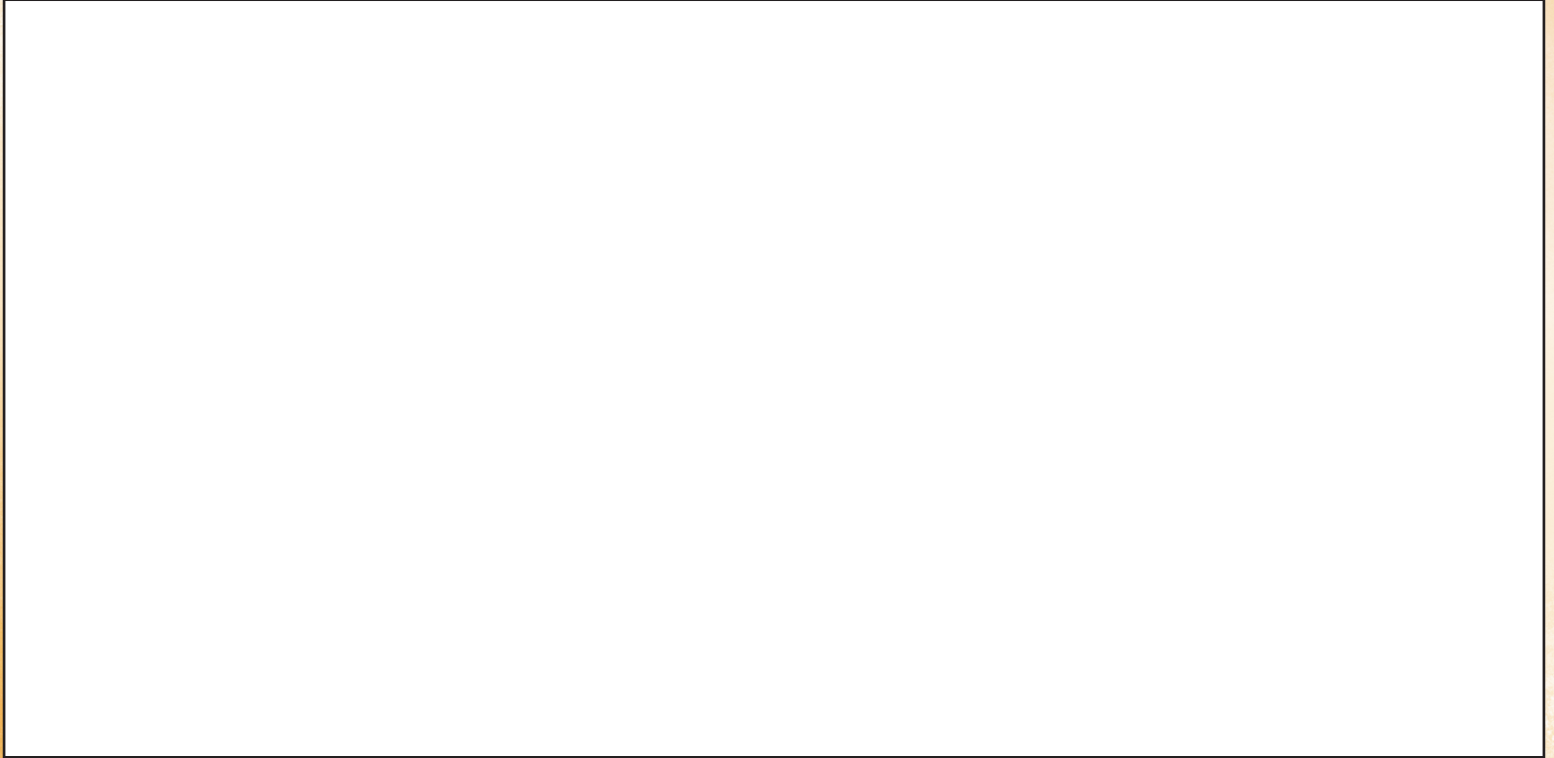
9. What is your exact travel time from start to finish to arrive at your desired destination?

Work Space



10. Research the climate of your desired location based on your time of travel. What is the weather going to be like when you arrive? How do you know? What should you pack with this in mind?

Work Space

A large, empty rectangular box with a thin black border, intended for the student to write their response to the question above. The box is currently blank.

TASK 4: Time Travel- MPH

Instructions: A commercial aircraft cruises at about 460-575 miles per hour (mph). Using this information, and your previously gained knowledge about your distance between your current location and destination, figure out about how many hours and minutes is your travel time. Solve to the nearest minute. Explain your thinking and show your work in your workspace.

Work Space

Instructions: _____

Instructions: A commercial aircraft cruises at about 460-575 miles per hour (mph). On flight, you have a large selection of films to watch to pass the time. Using the information you have previously gained from figuring out how much time you have on flight, figure out which movies you have time to watch to most closely cover all the time you will spend on the flight. Research your select movies to find out their exact run time (how long the movie plays in minutes- convert to hours and minutes)

Movie Title: _____	Movie Run Time: _____
Movie Title: _____	Movie Run Time: _____
Movie Title: _____	Movie Run Time: _____
Movie Title: _____	Movie Run Time: _____
Movie Title: _____	Movie Run Time: _____

Work Space

TASK 5: Decimals at Work

Instructions: Traveling costs money. Often, please work hard to save up the money that they have to be prepared for the costs of a trip. Having a working understanding of decimals will help you manage your money well.

Use the teacher examples in red to practice using decimals with basic operations.

Example: Addition

$$\begin{array}{r} 526.39 \\ +236.90 \\ \hline 763.29 \end{array}$$

$$\begin{array}{r} 385.26 \\ +345.55 \\ \hline \end{array}$$

$$\begin{array}{r} 821.47 \\ +173.68 \\ \hline \end{array}$$

Example: Subtraction

$$\begin{array}{r} 312 \\ 954.26 \\ -\underline{621.92} \\ 332.34 \end{array}$$

$$\begin{array}{r} 575.42 \\ -\underline{429.38} \end{array}$$

$$\begin{array}{r} 679.00 \\ -\underline{372.59} \end{array}$$

Multiplication

Steps:

Ignore the decimals until the end. Starting on the right, multiply each digit in the bottom number by each digit in the top number.

Add the products.

Then, determine the total number of digits behind the original numbers' decimal points.

Place the same number of digits behind the decimal point in the product.

$$\begin{array}{r} 9.24 \\ \times 3.6 \\ \hline 5544 \\ +27720 \\ \hline 33.264 \end{array}$$

$$\begin{array}{r} 16.28 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 14.7 \\ \times 5.3 \\ \hline \end{array}$$

TASK 6: Establishing Savings

Instructions: Calculate the amount of money saved each month and keep a running total. Watch your decimal!



Total for January



Total for February

Total for both months

Total for March

Total for 3 months

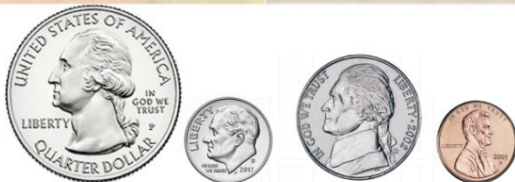
Total for April

Total for 4 months



Total for May

Total for 5 months





Total for June

Total for 6 months

Total for July

Total for 7 months



Total for August

Total for 8 months

Total for September

Total for 9 months

Total for October

Total for 10 months



Total for November

Total for 11 months



Total for December

Total for 12 months

What is the difference of March and December? _____

What is the difference of January and August? _____

What is the difference of May and November? _____

TASK 5: Shopping for Travel

Instructions: The next step to prepare for your trip is to shop for necessary items. Below is a shopping list of items and their prices. Use the chart to complete the task cards.



Cut out the task cards below. Complete them using the chart above. Use the following workspace pages or separate sheets of paper to show your work.

Task #1

Your family of four needs suitcases for the trip. Using multiplication, how much will it cost?

Task #2

You have \$150 to spend. You want to buy headphones and a jacket. Do you have enough money? Defend your answer.

Task #3

You have \$125 to spend. Choose three items to purchase. How much money would you have left over?

Task #4

You and your two siblings each want new hats. Using multiplication, how much will it cost?

Task #5

You buy a hat, a map, and a travel journal at the airport. You pay with a \$100 bill. How much is your change?

Task #6

Using multiplication, how much would it cost to buy six first aid kits?

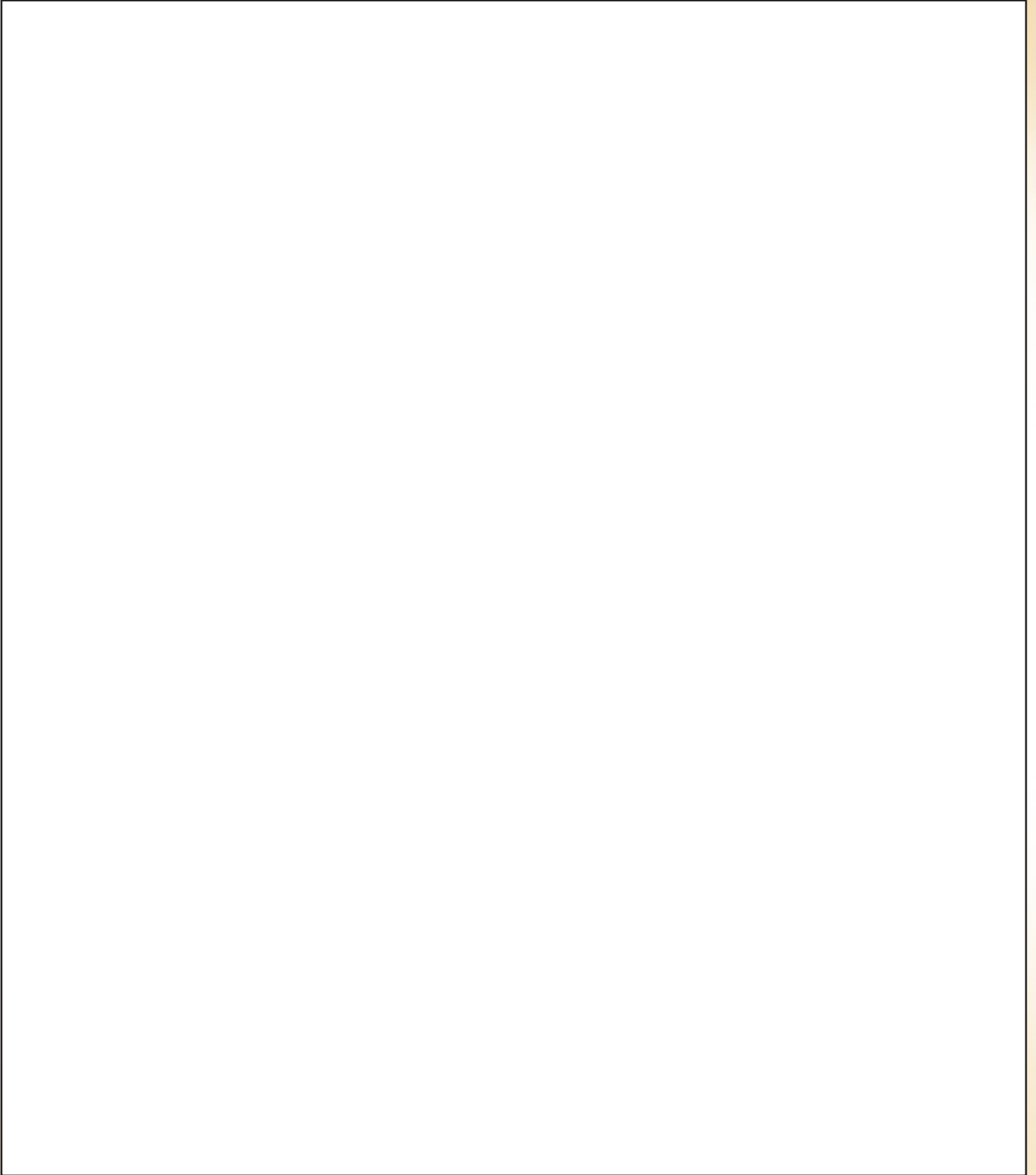
Task #7

You want to buy a new suitcase and sunscreen. You have \$200 to spend. Do you have enough money? Defend your answer.

Task #8

You buy three containers of sunscreen. You hand the cashier \$30. How much is your change?

Work Space



TASK 7: Budgets & Percentages

Instructions: An important step to prepare for your trip is to budget how much your trip will cost. Using the workspace available, determine how much money you will be spending in the following five categories: lodging, transportation, food & drinks, entertainment, and souvenirs.

Follow the parameters below to create a successful budget:

- You have a total of \$1500.
- Lodging will use 30% of the budget.
- Transportation will use 25% of the budget.
- Food & drinks will use 20% of the budget.
- Entertainment will use 15% of the budget.
- Souvenirs will use 10% of the budget.

Practice working with percentages.

Steps:

First convert the percentage to a decimal. 20 percent is 0.20 in decimal format. Second, multiply the decimal by the amount given to determine the amount of the percentage.

$$\begin{array}{r} 48 \\ \times .20 \\ \hline 00 \\ +960 \\ \hline 9.60 \end{array}$$

$$\begin{array}{r} 80 \\ \times .45 \\ \hline \end{array}$$

$$\begin{array}{r} 150 \\ \times .30 \\ \hline \end{array}$$

Write an addition equation using your amounts from each category. Show your work in the space provided and make sure the total is exactly \$1,500.00.

Write the amount of money you budgeted for each item and then draw the amount in dollars and cents.

Food & Drink	Amount Budgeted=	
Lodging	Amount Budgeted=	
Transportation	Amount Budgeted=	
Souvenirs	Amount Budgeted=	
		Total Spent=

Work Space

TASK 9: Traveling Takes Time

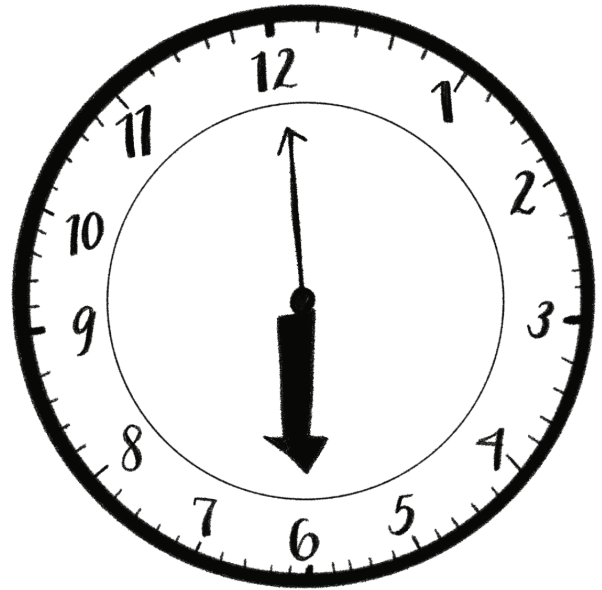
Instructions: Let's work on your understanding of telling time in preparation for your big trip!

When telling time, begin with the hour hand (shorter hand). Use the numbers 1-12 and use the number that the short hand passed last.

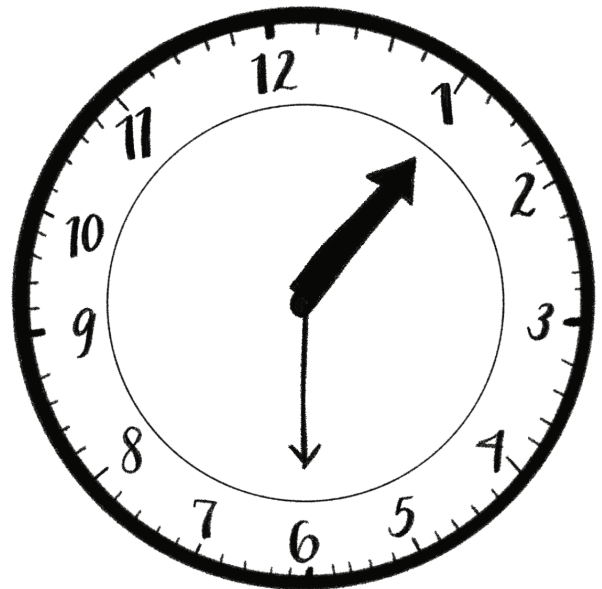
Then, read the minute hand (longer hand). Remember to count the numbers 1-12 by 5's, then count by 1's in between.

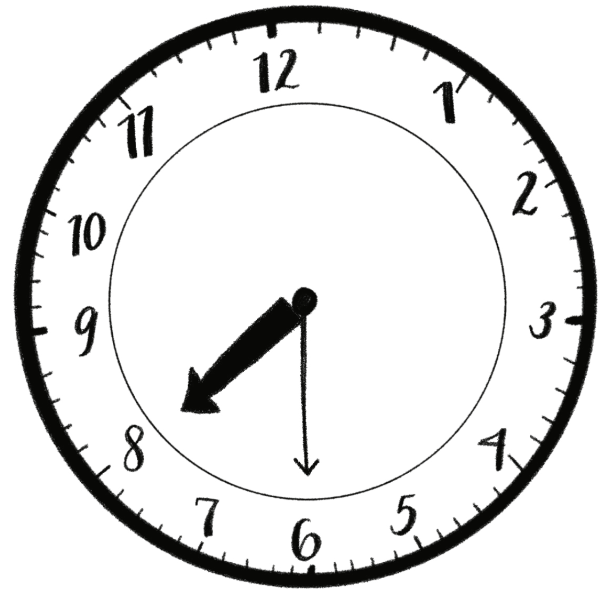
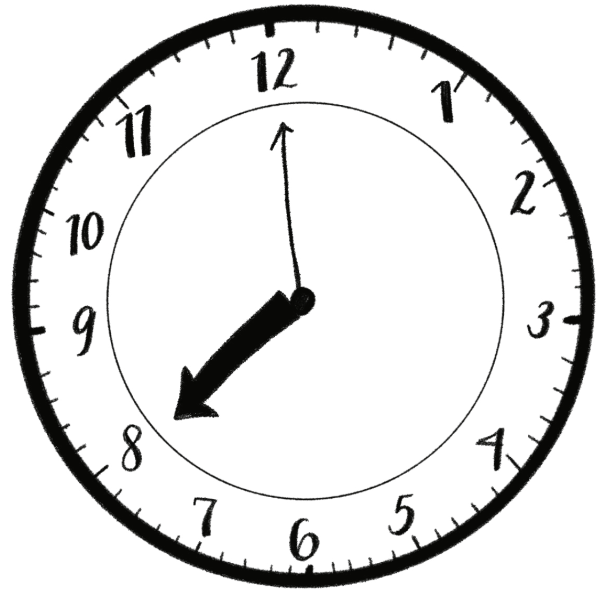
Cut out the task cards. Match the times on the digital clocks with the analog clocks.

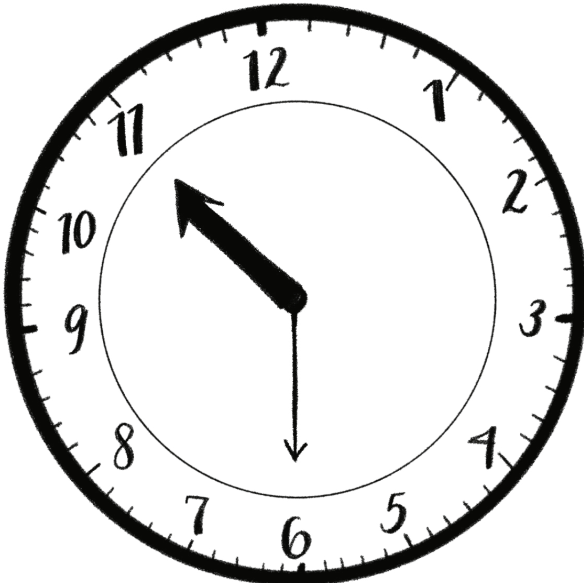
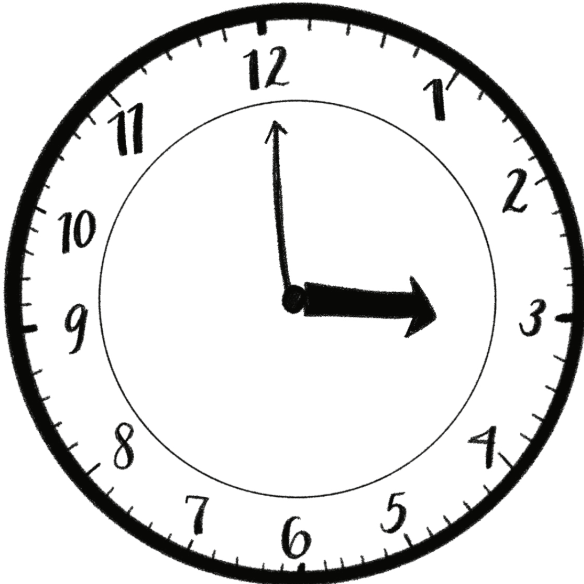
4:30

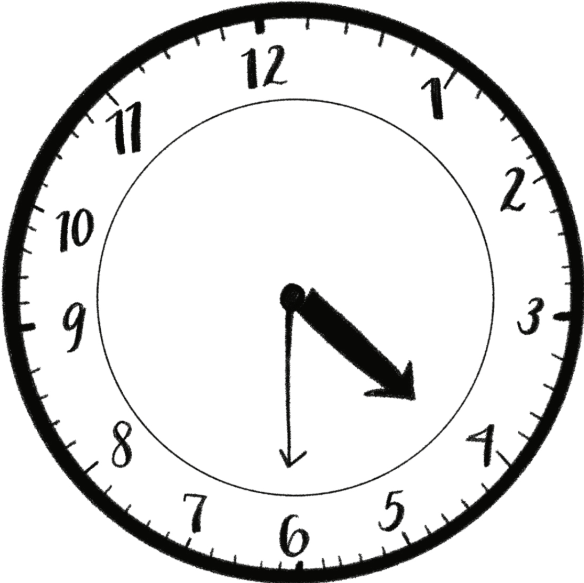
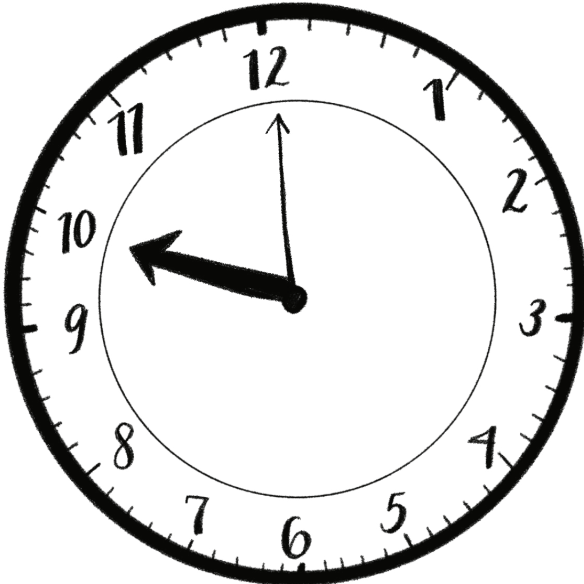


10:00





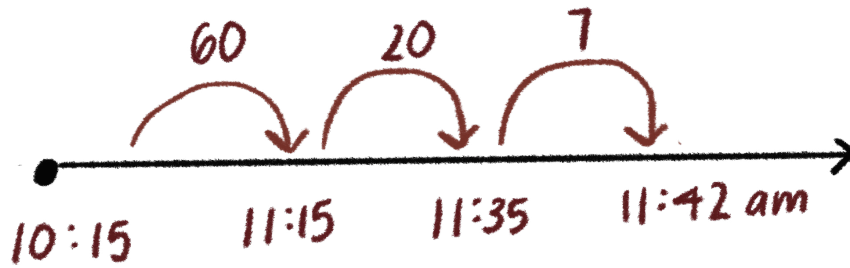




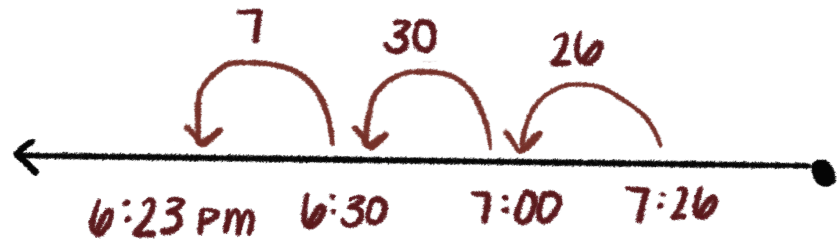
TASK 6: Traveling Takes Time

Instructions: Use the teacher examples in red to practice finding the elapsed time.

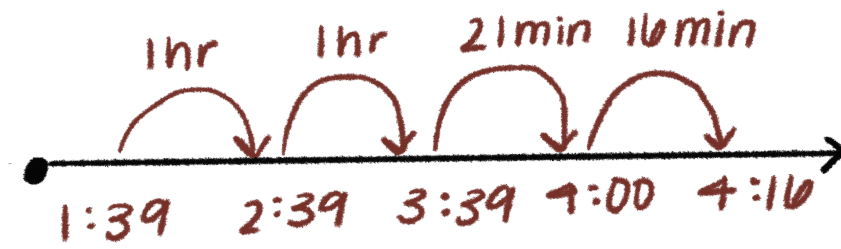
Find the End Time



Find the Start Time



Find the Time Between



$$1 \text{ hr} + 1 \text{ hr} + 21 \text{ min} + 10 \text{ min} = 2 \text{ hrs}, 37 \text{ min}$$



TASK 7: Itinerary!

Instructions: : When traveling, it is important to have a plan (itinerary)! Practice organizing one by filling in the blanks to complete a schedule for your family.

Parameters:

- The trip should be overseas and last at least 5 days.
- Each day must have a wake-up time and bedtime.
- There should be at least 2 times to eat and 2 activities per day. Remember to include the start time and end time for each, as well as the elapsed time.

Use the outline for Day 1 below. Days 2-5 can be organized in your own style.

Day 1

Activity	Start Time	End Time	Elapsed Time
Wake up			
Go to Sleep			

Day 2

Activity	Start Time	End Time	Elapsed Time
Wake up			
Go to Sleep			

Day 3

Activity	Start Time	End Time	Elapsed Time
Wake up			
Go to Sleep			

Day 4

Activity	Start Time	End Time	Elapsed Time
Wake up			
Go to Sleep			

Day 5

Activity	Start Time	End Time	Elapsed Time
Wake up			
Go to Sleep			

TASK 8: When Traveling- There are always UNKNOWNNS

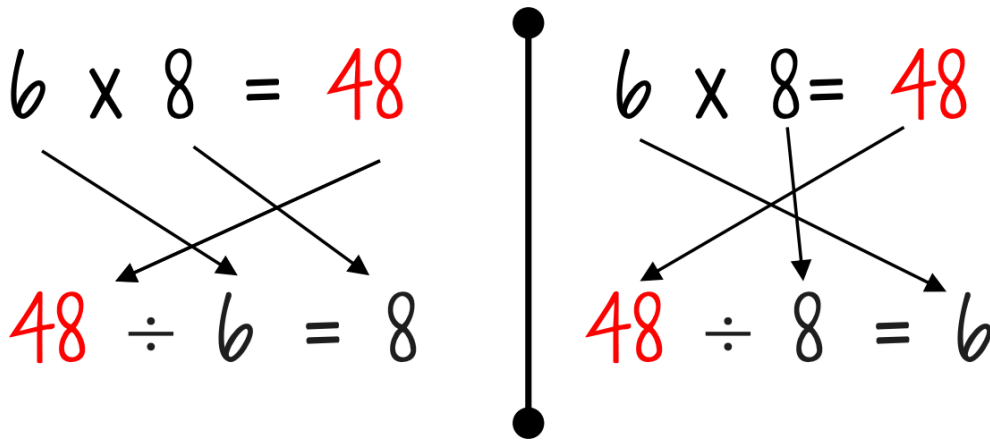
Instructions: Traveling can be tricky and does not always go as planned. Unknowns in travel can be scary, but they can also provide a way for adventure! Similarly, encountering an unknown in math is such an adventure! Work to solving the unknowns in math equations to practice problem solving and endurance.

Find the unknown in each scenario. Draw a picture to show your work. Write a division and multiplication sentence to represent the unknown.

In order to find the unknown, you must understand multiplication and division and how they are related. Look at the problems below and see how the numbers are rearranged to solve each problem.

The factors are the two numbers that are being multiplied together.
The product is the answer to a multiplication problem.

The dividend is the number that will be divided.
The divisor is the number that you divide by.
The quotient is the answer to a division problem.



Instructions: Fill in the blanks for the multiplication or division equations.

$6 \times \underline{\quad} = 30$

$16 \div 4 = \underline{\quad}$

$\underline{\quad} \times 3 = 27$

$30 \div \underline{\quad} = 6$

$4 \times \underline{\quad} = 16$

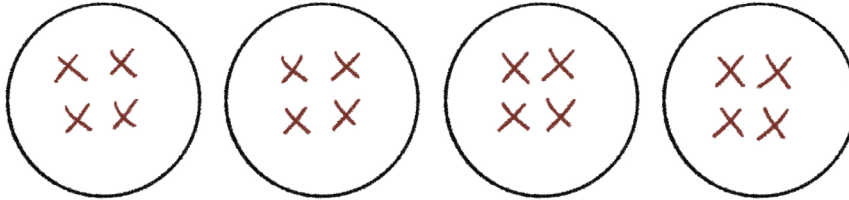
$27 \div 3 = \underline{\quad}$

Instructions: Find the unknown in each scenario. Draw a picture to show your work. Write a division and multiplication sentence to represent the unknown. Use the teacher example in red for assistance.

Instructions: Choose a strategy and write a multiplication sentence to find the total amount of people that would be able to travel in each scenario. Use the teacher example in red for assistance.

Scenario 1: 4 cars with people equals 12 people

EXAMPLE:

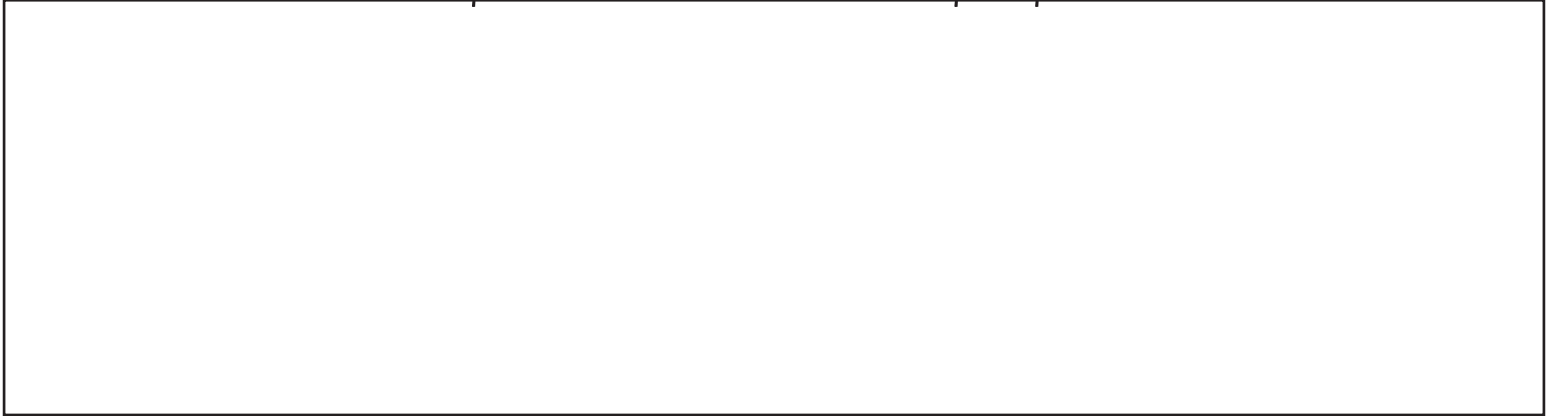


$$4 \times 3 = 12 \text{ or } 12 / 4 = 3$$

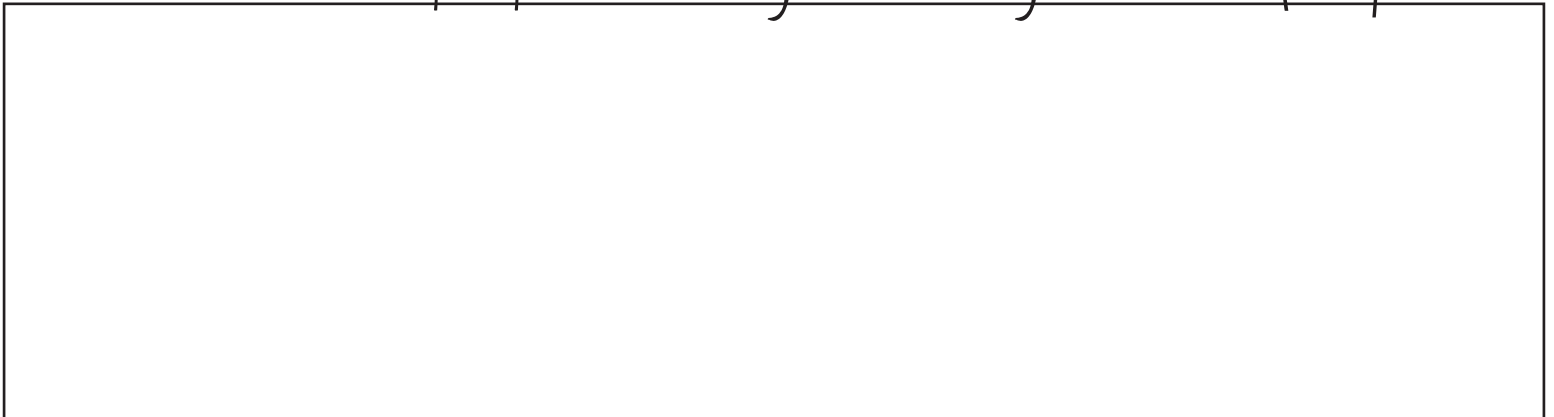
Scenario 2: 9 lines with people in each one equals 540 people

Scenario 3: 12 people divided equally into 6 trucks

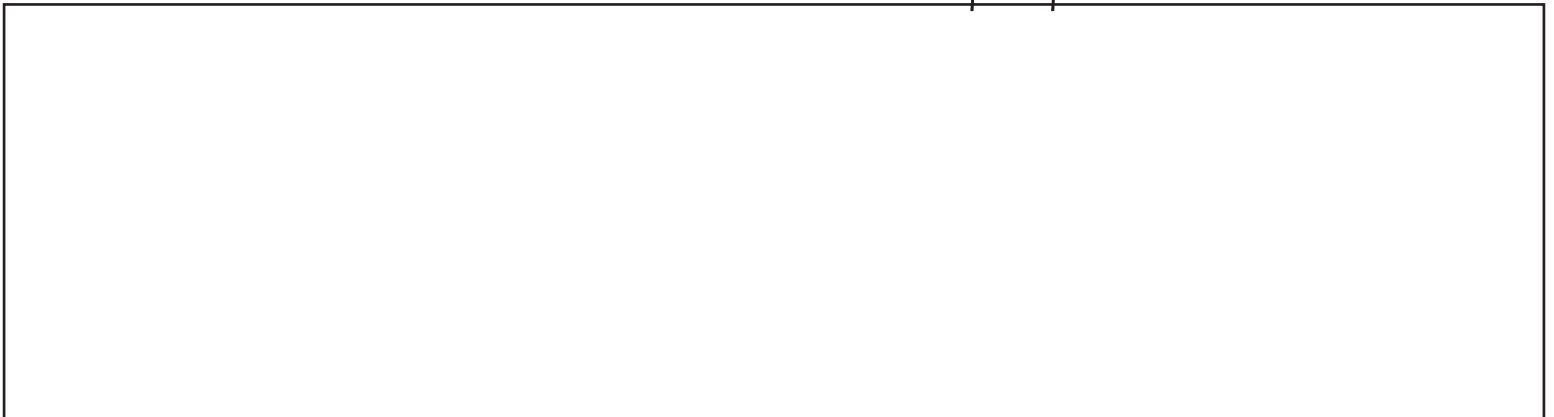
Scenario 4: 8 airplane rows with 9 people in each

A large, empty rectangular box with a black border, intended for a diagram or calculation related to Scenario 4.

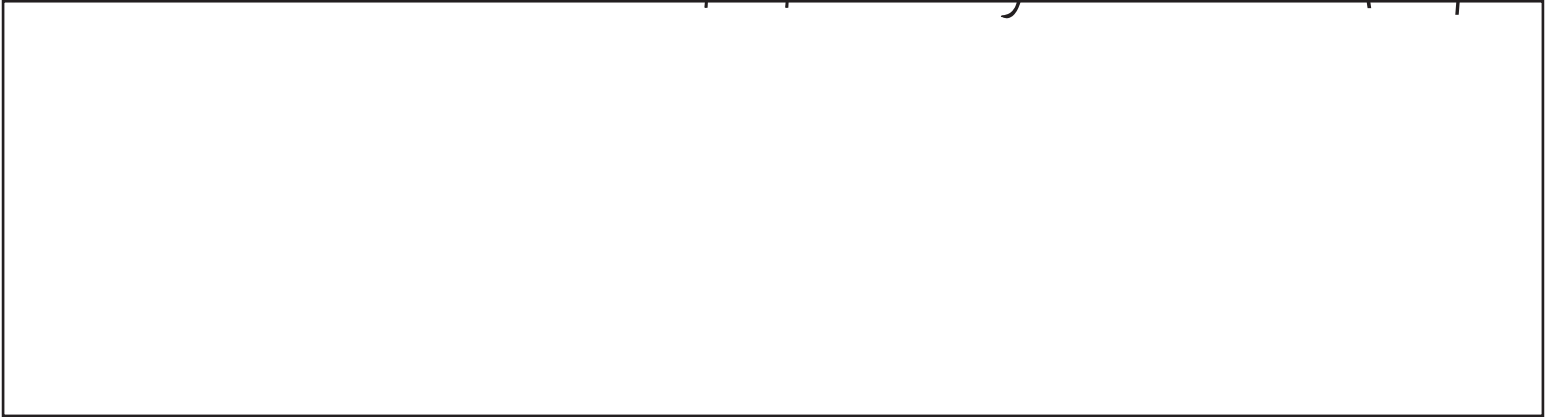
Scenario 5: 60 people sharing 10 waiting areas equally

A large, empty rectangular box with a black border, intended for a diagram or calculation related to Scenario 5.

Scenario 6: 10 rows in a bus with 4 people in each row

A large, empty rectangular box with a black border, intended for a diagram or calculation related to Scenario 6.

Scenario 7: 1 train with 36 people sitting in 6 cars equally



Scenario 8: 9 taxis split evenly by a total of 45 people



TASK 9: Pack your Bag & Bon Voyage

Instructions: : You're on your way! Check the weather in destination location and think about what you will need to pack. Draw these items on the suitcase below. HAVE A SAFE TRIP!

