

Equivalent Fractions

1. Arrange the loop cards so that each fraction is matched to an equivalent fraction. Complete the incomplete fractions and fill in the blank card to finish the loop.

$\frac{25}{21}$		$\frac{6}{18}$		$\frac{24}{30}$	$\frac{5}{8}$
$\frac{25}{21}$		$\frac{12}{20}$		$\frac{18}{24}$	
	$\frac{2}{7}$	$\frac{21}{30}$			

DP

2. Clare and Barney need to find an exit route for the maze below. They can travel up, down, left, right and diagonally to equivalent fractions. Barney must start and end on a shaded square. Clare must start and end on a white square.

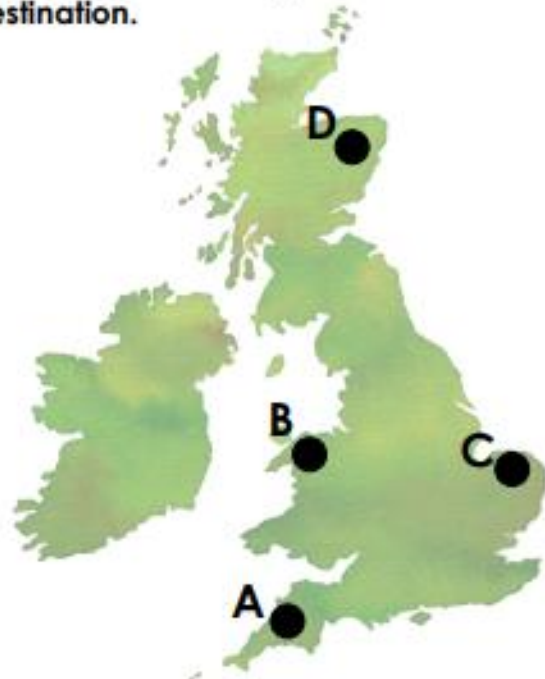
	Barney start?	$\frac{36}{54}$	$\frac{5}{9}$	$\frac{4}{6}$	$\frac{16}{24}$	$\frac{24}{36}$	Exit?
	Clare start?	$\frac{20}{30}$	$\frac{32}{48}$	$\frac{12}{18}$	$\frac{28}{42}$	$\frac{24}{56}$	Exit?
	Barney start?	$\frac{5}{8}$	$\frac{9}{21}$	$\frac{18}{42}$	$\frac{20}{28}$	$\frac{12}{28}$	Exit?
	Clare start?	$\frac{3}{7}$	$\frac{6}{15}$	$\frac{6}{14}$	$\frac{15}{35}$	$\frac{27}{63}$	Exit?

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Add Mixed Numbers

1. Frasier and Ellan are going on holiday. They want to visit two places but want to use 5 or less tanks of petrol to get to their final destination.

Route	Petrol needed
A to B or B to A	$1 \frac{2}{5}$ tanks
A to C or C to A	$1 \frac{9}{11}$ tanks
A to D or D to A	$3 \frac{3}{7}$ tanks
B to C or C to B	$1 \frac{9}{10}$ tanks
B to D or D to B	$2 \frac{4}{5}$ tanks
C to D or D to B	$2 \frac{7}{8}$ tanks



Explore where they could have started and two journeys they could take that use 5 or less tanks of petrol.

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2. Mrs Clarke has spilled coffee over Lisa's maths book whilst marking her work.

$$3 \frac{\text{coffee splash}}{\text{coffee splash}} + \frac{\text{coffee splash}}{\text{coffee splash}} = 6 \frac{\text{coffee splash}}{\text{coffee splash}}$$

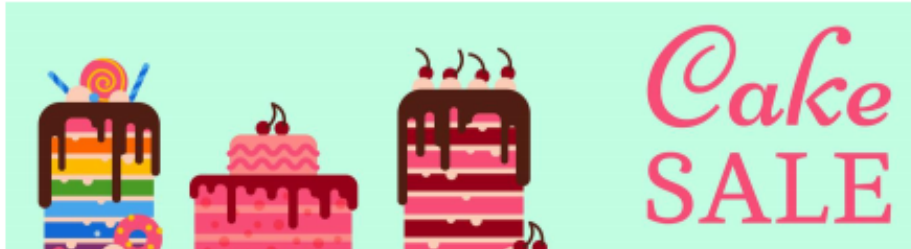
15	1	18	20	8	12
14	4	5	17	28	24

Use the digit cards to explore the different calculations Lisa could have completed if all the denominators were different and the second fraction was improper.

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Multiply Unit Fractions by an Integer

1. Year 5 are hosting a coffee and cake sale for a charity.



Between one and two cakes were eaten.






The number of people who came is an even number.

Each person that came had one slice of cake.

Investigate the fraction the cakes could have been cut into and how many people came to the cake sale. Write the multiplication sentences to show your working.

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2. Hannah and Mike are playing darts. They have chosen 3 darts each which have landed in different sections.

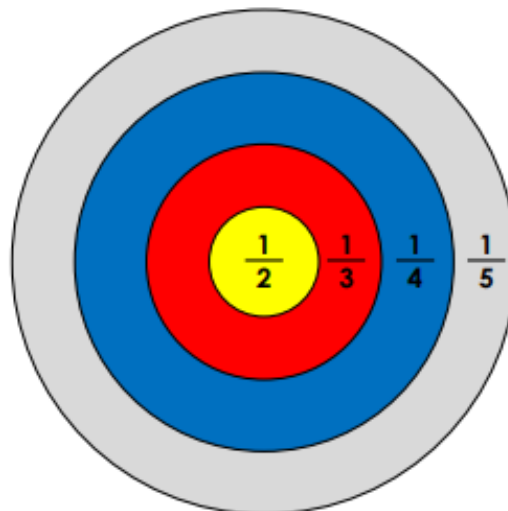
Dart	Multiplier
Green 	2
Blue 	3
Pink 	4
Yellow 	5
Orange 	6

Hannah scored

$$3 \frac{1}{4}$$

Mike scored

$$4 \frac{1}{2}$$




Explore the darts they could have chosen.

DP


Fraction of an Amount

1. Lacey, Jai and Anabia are sharing a jar of sweets. They each take a different fraction of sweets and there are no sweets left over.


I have a non-unit fraction in its simplest form with an even numerator.



Lacey

I have a non-unit fraction in its simplest form.


Jai

I have a unit fraction and the fewest sweets.


Anabia



Explore the possible fraction of the sweets they each could have taken.

2. James and his sister are opening a stall at the local food festival. They are given a budget of £98. Their mum wants them to spend as much of the budget as possible.

Explore the different amounts of the budget they could have spent.

Budget £98	<div style="border: 1px solid black; padding: 5px; display: inline-block; transform: rotate(-15deg); background-color: #00aaff; color: white; font-weight: bold;">Odd denominator</div> <input type="text"/> of £98 = <input type="text"/>	New Total <input type="text"/>	
	<div style="border: 1px solid black; padding: 5px; display: inline-block; transform: rotate(-15deg); background-color: #00aaff; color: white; font-weight: bold;">A fraction less than a whole</div> <input type="text"/> of <input type="text"/> = <input type="text"/>	<div style="border: 1px solid black; padding: 5px; display: inline-block; transform: rotate(-15deg); background-color: #00aaff; color: white; font-weight: bold;">Unit fraction</div> <input type="text"/> of <input type="text"/> = <input type="text"/>	
Final Total <input type="text"/>	<div style="border: 1px solid black; padding: 5px; display: inline-block; transform: rotate(-15deg); background-color: #00aaff; color: white; font-weight: bold;">Food</div> <input type="text"/> of <input type="text"/> = <input type="text"/>	New Total <input type="text"/>	

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Four Operations

1. Harris, Zara, Micky and Gail went out for a meal together. They each had a main course, a side dish and a dessert.

Menu					
Main courses		Sides		Desserts	
Pizza	£4.65	Fries	£2.60	Ice cream	£3.94
Burger	£5.29	Onion Rings	£3.10	Cake	£4.55
Pasta	£3.43	Garlic Bread	£3.18	Apple pie	£3.52
Hot Dog	£4.05	Salad	£2.10	Fruit salad	£4.62
Chicken	£5.70	Corn	£1.99	Cookies	£3.86
★ ★ Wednesday Meal Deal! 3 courses for only £8.75! ★ ★					

Zara had the most expensive choices on the menu and Micky had the least expensive choices on the menu. The total bill was than £43.64. Harris and Gail chose foods nobody else was having.

- Can you work out what all the friends had to eat?
- If they shared the bill equally, how much did they each pay?
- How much less would it cost each of them if they came on a Wednesday?

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2. Bella has saved £48 in her savings account.

- In the first month she saved one eighth of her total.
- In the second month she saved ten times less than she saved in the third month.
- In the third month she saved twice as much as in the first month, but only half the amount she saved in the fifth month.
- In the fourth month, Bella spent as much as she had saved in the first month.
- She made up the final amount in the sixth month.
- How much did Bella save each month?



Compare Decimals

1. Write the following numbers as decimals.

A. Ten ones and fifteen hundredths

F. One one and ten tenths

B. Three ones and ten hundredths

G. Thirty tenths and ten hundredths

C. Two ones, one tenth and one hundredth

H. Two ones and four tenths

D. Two ones, four tenths and three hundredths

I. Two ones, one tenth and four hundredths

E. Three ones and six tenths

J. Nine ones, three ones and one tenth

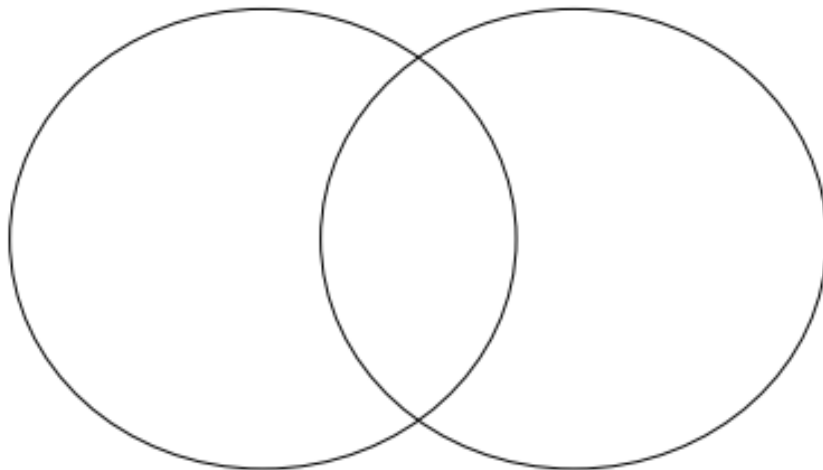
Choose numbers from above to complete the statement below.

$$\boxed{} > \boxed{} = \boxed{} > \boxed{} < \boxed{} > \boxed{}$$

DP

2. Sort the following numbers into the Venn diagram and add labels.

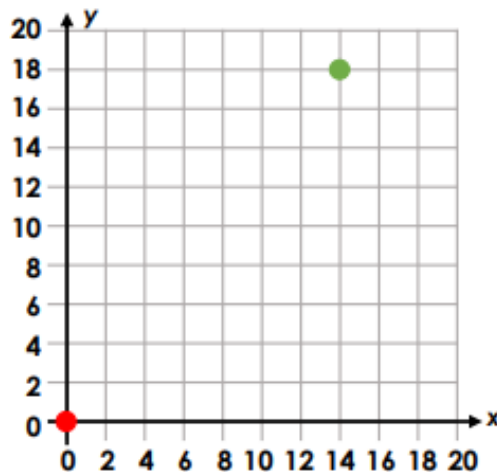
eleven tenths	six tenths and two hundredths	0.8
1.13	220 hundredths	1.3
0.64	2.31	twelve tenths



Position in the First Quadrant

1. Ethan is playing a game. He starts at the coordinates $(0, 0)$ and must reach $(14, 18)$. He must make seven different movements and is only allowed to travel vertically and horizontally on the grid lines.

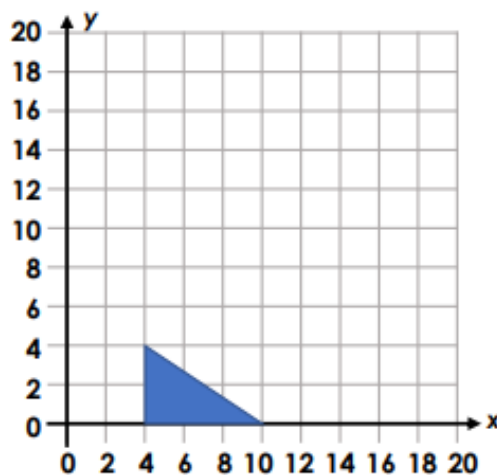
Explore the different routes that would work.



DP

2. Create a quadrilateral that shares a coordinate with the triangle on the grid below. The shapes cannot overlap.

Once complete, repeat the step so that another triangle shares one of the coordinates of the quadrilateral.

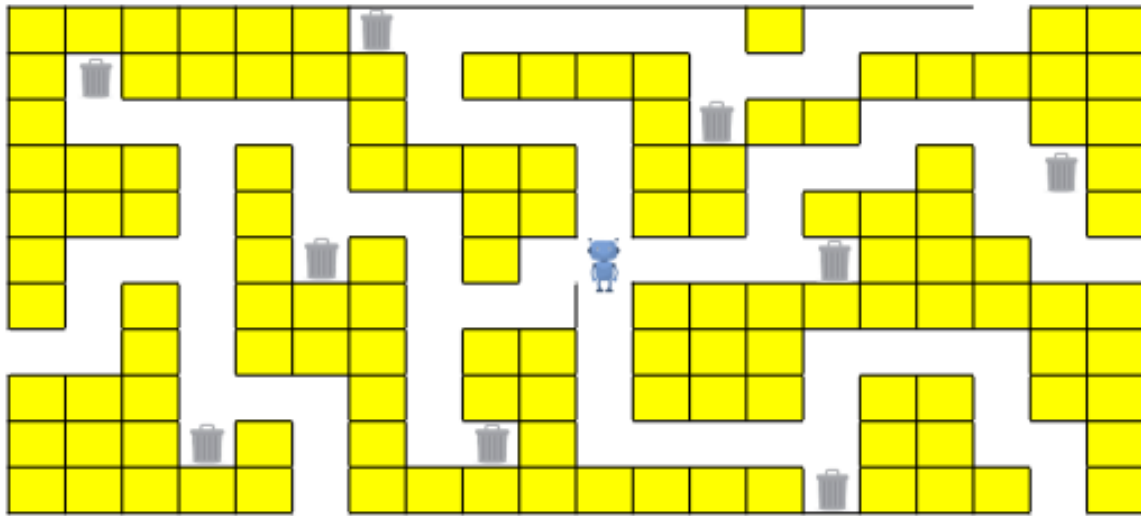


Investigate how many times you could repeat this process before you run out of space on the grid.

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Translation

1. Kyle wants to program his Eco 3000 robot so that it can exit the grid but it is stuck in the centre. Explore the shortest route possible. What would be the longest route?



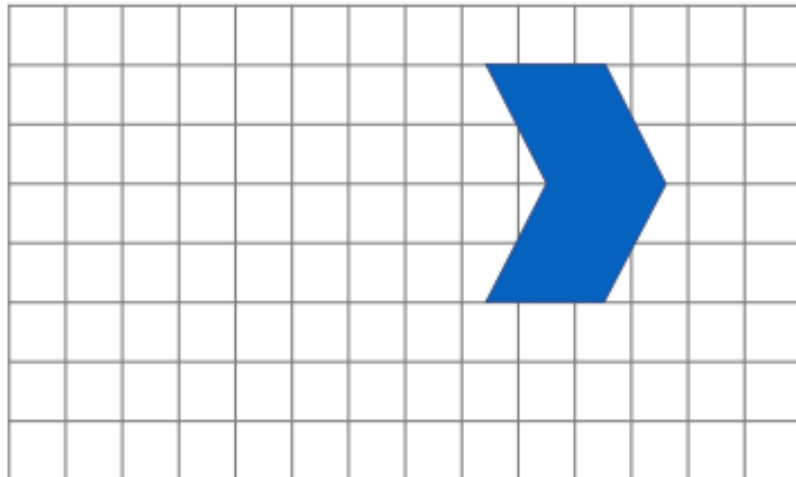
Eco 3000 loves to eat rubbish. What is the greatest amount of rubbish he can collect within 30 moves before he finds the exit?

DP

2. Davina is investigating translations and has translated her shape into the position shown below.

She has moved it 8 squares in total.

Explore the different positions that the original shape could have been placed, by drawing it on the grid provided.



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