Y1 Maths Challenges

Primary School ARCHIBALD

Pick and Mix

See how many challenges you can complete. Aim to do at least one each day. You can pick from any of the challenges and mix them up to complete them in any order. Some are easier and everyone should be able to try them, others are more challenging and require more thought.
Some challenges are very quick to complete, others may take you a bit longer.

Mo and Jack are working out 11 + 7

Mo says,

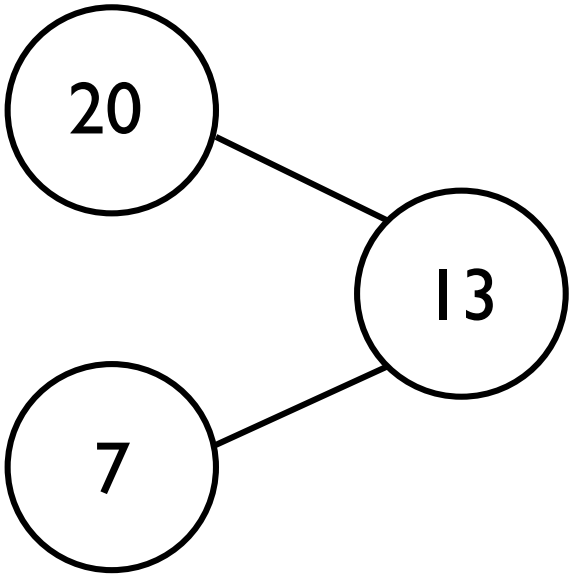
11, 12, 13, 14, 15, 16, 17

Jack says,

12, 13, 14, 15, 16, 17, 18

Draw a number line to show who is correct

Jack represents a number bond to 20 in the part whole model.



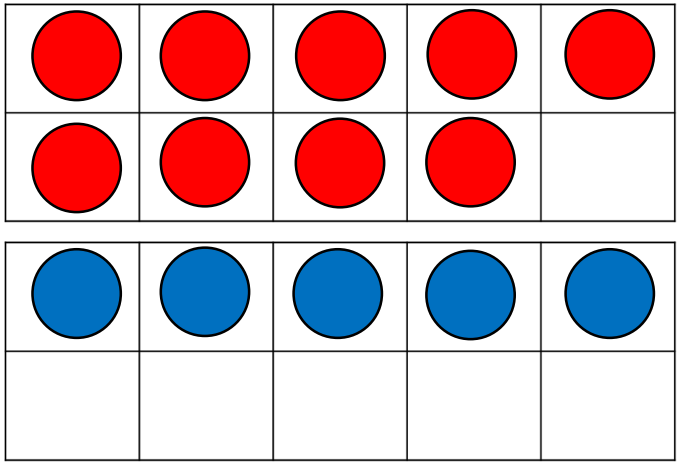
Can you spot his mistake and draw the correct part whole model?

True or false?

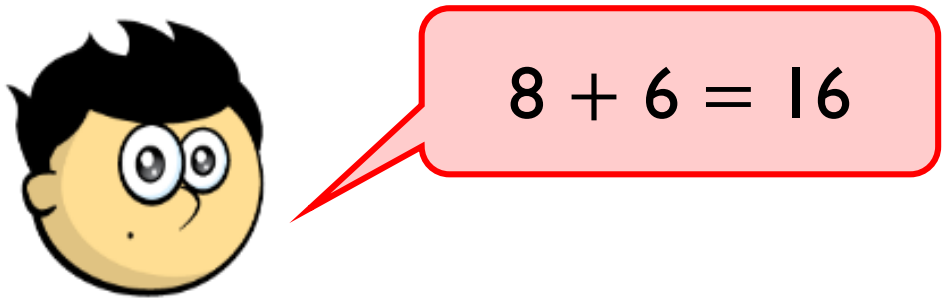
There are double the amount of numbers bonds to 20 than there are number bonds to 10

Prove it – can you use a systematic approach?

Dexter uses ten frames to calculate eight plus six.



He says,



Do you agree? Explain why.

How many ways can you complete this number sentence?

Draw a number line like this one to help you.

$\square - \square = 11$

Teddy works out 15 – 6
This is Teddy's working out:

15 – 5 = 10 – 1 = 9

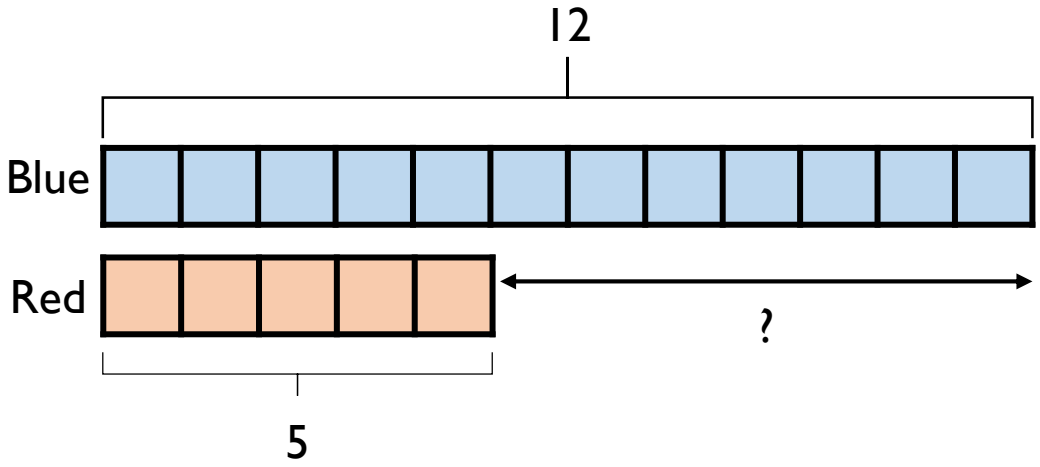
Why is Teddy's working out wrong?

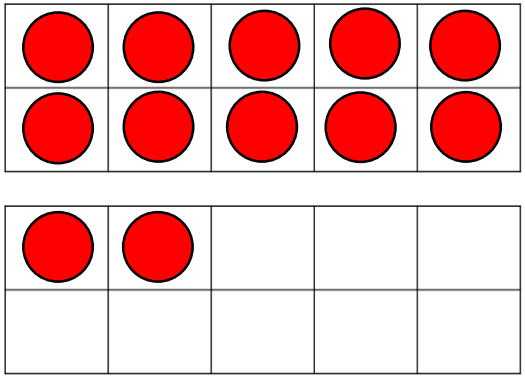
Which method would you use to solve each problem?

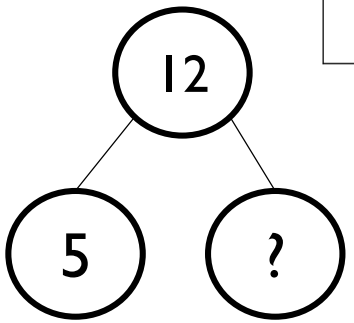
Max has 12 balloons.
5 of the balloons burst.
How many are left?

Max has 12 balloons.
5 of the balloons are red.
There rest are blue.
How many blue balloons does Max have?

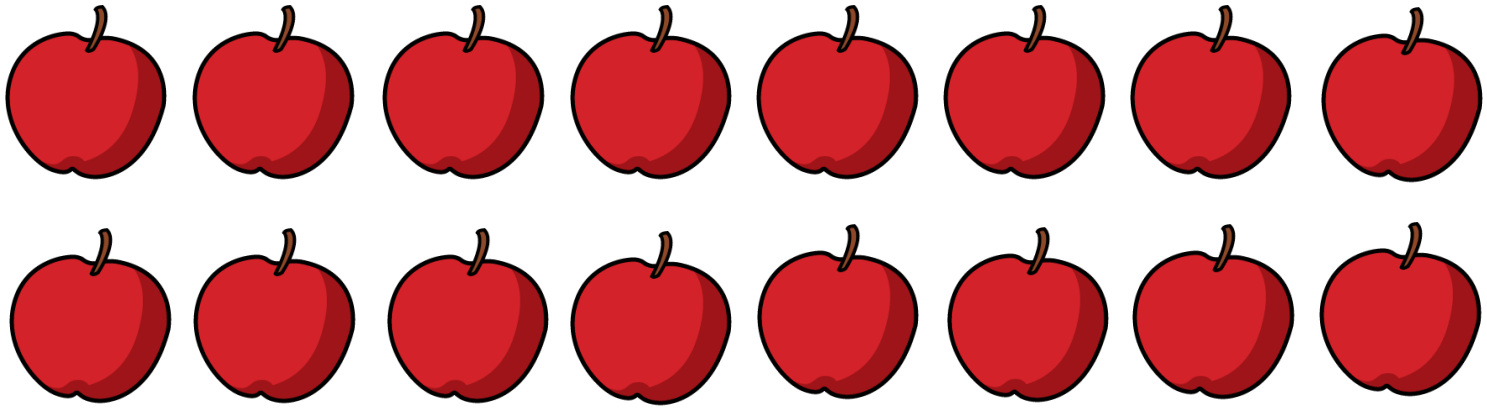
Max has 12 blue balloons and 5 red balloons.
How many more blue balloons than red balloons does he have?







Amir has 16 apples. Ron has none.
Amir gives Ron 9 apples.
Who has the most apples now?
Explain how you know.



Top Tip – Draw the apples if you need help.

Look at the following objects.

Teddy works out these calculations.

$15 - 4 =$ _____

$15 - 11 =$ _____

$11 - 4 =$ _____

What question could he have asked each time?

Whitney has 16 sweets and eats 7 of them.

Mo has 17 sweets and eats 8 of them.

Who has more sweets left?

Explain how you know.

Dexter is working out which symbol to use to compare the number sentences.

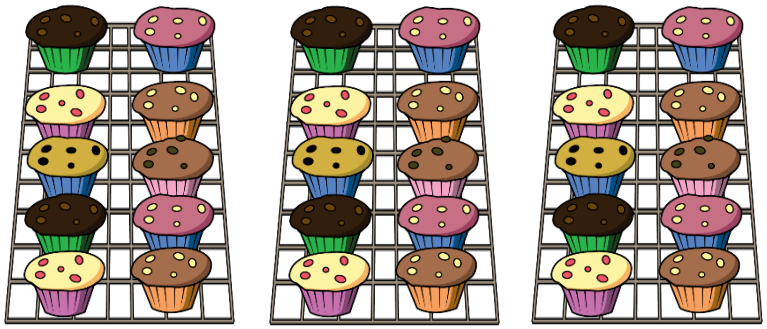
$$14 - 5 \bigcirc 14 + 5$$

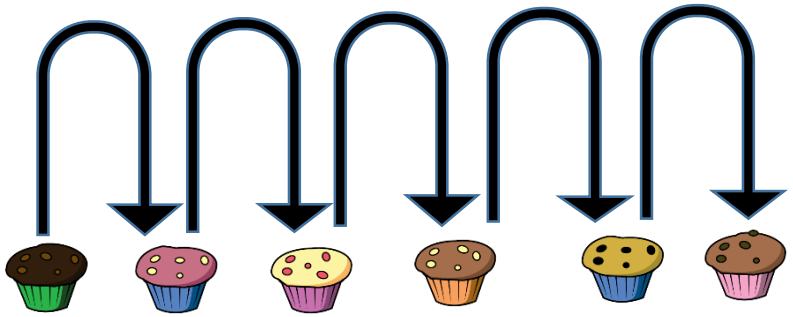
The missing symbol must be = because all of the numbers are the same.

Do you agree with Dexter?
Explain why.

Annie counts how many muffins she has.

I have 35 muffins.





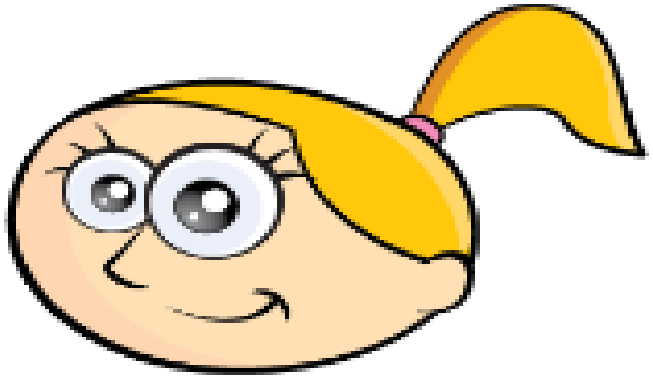
30	31	32	33	34	35	36	37	38	39	40

Do you agree with Annie?
Explain your answer.

Eva is counting from 38 to 24

Will she say the number 39?
Will she say the number 29?
Will she say the number 19?

Explain how you know.

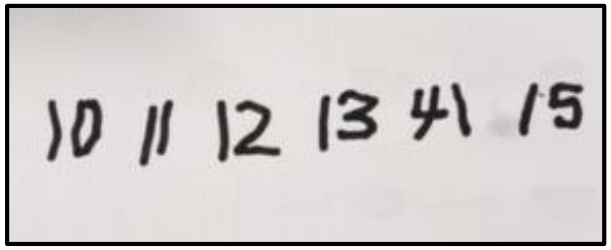


Ron and Whitney are counting.

Ron says:

43, 42, 41, 40, 41, 42

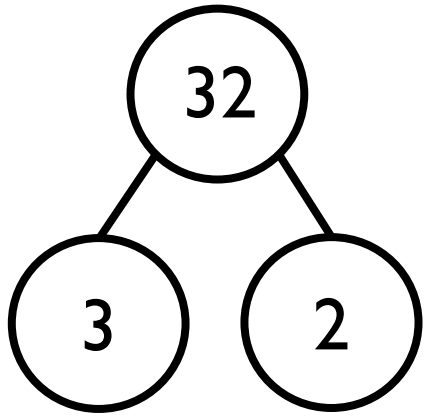
Whitney writes:



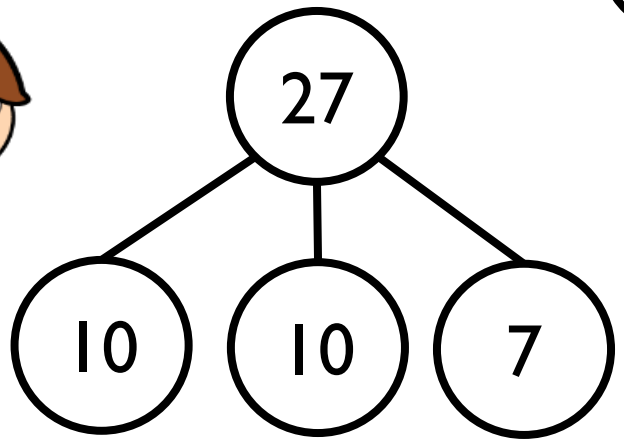
Can you spot their mistakes? Explain to an adult.

The children are completing the part whole models.

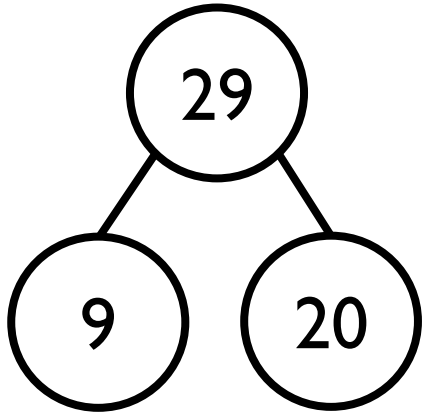
Tommy



Rosie



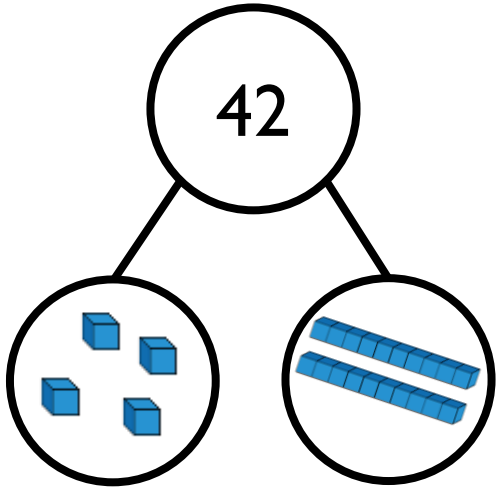
Jack



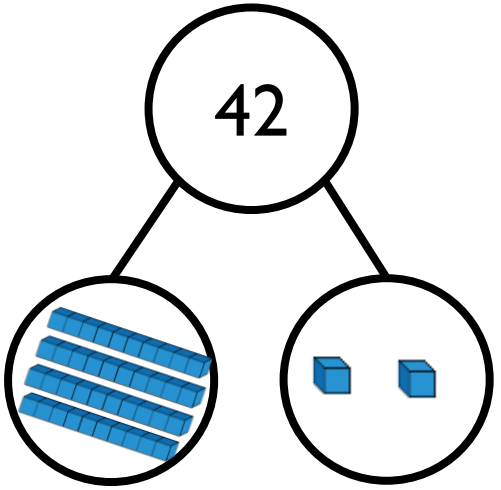
Are they correct?
Explain why.

Dora and Amir both try to build the same number.

Dora



Amir



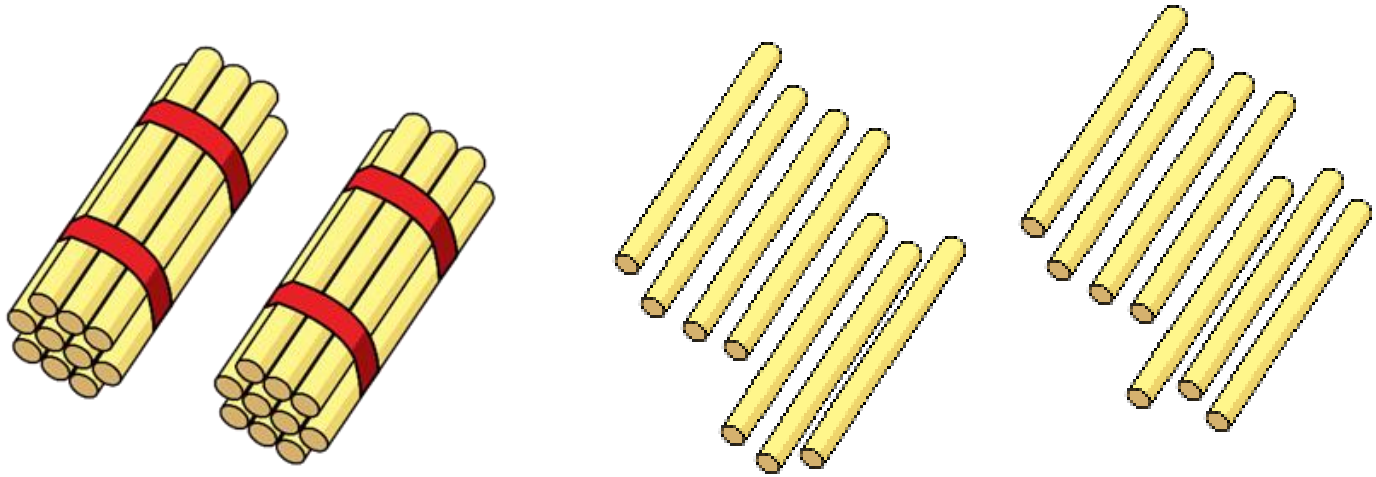
Who is correct?

Can you explain the mistake that has been made?

Whitney says,

I have 2 tens and 14 ones.

How many straws does Whitney have?



Always, Sometimes, Never…

When you find one more than a number, only the ones digit will change.

Convince me using some examples. Think very carefully!

Use the clues to work out the number.

- I have a number with 3 tens.
- One less than my number makes the tens digit change.
- One more than my number has 1 one.

What is my number?
Can you make some clues to describe your secret number?

Choose the correct numbers to make the sentences correct.

28	26	33	45
36	43	35	49

☐ is one less than 27

34 is one less than ☐

☐ is one more than 44

50 is one more than ☐

Jack and Eva are playing a game.
They each collect a handful of cubes.
They arrange their cubes to see who has more.

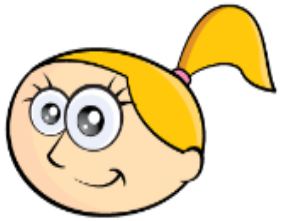
Jack 

Eva 

Jack

I have more.

I have more.



Eva

Who is right?
Explain to an adult.

Teddy is comparing two numbers.

My number is larger than 19
but not one more than 19

23 > ☐

What could Teddy's number be?
What can't it be?

Dora compares the two values.

23	<	3 tens and 3 ones

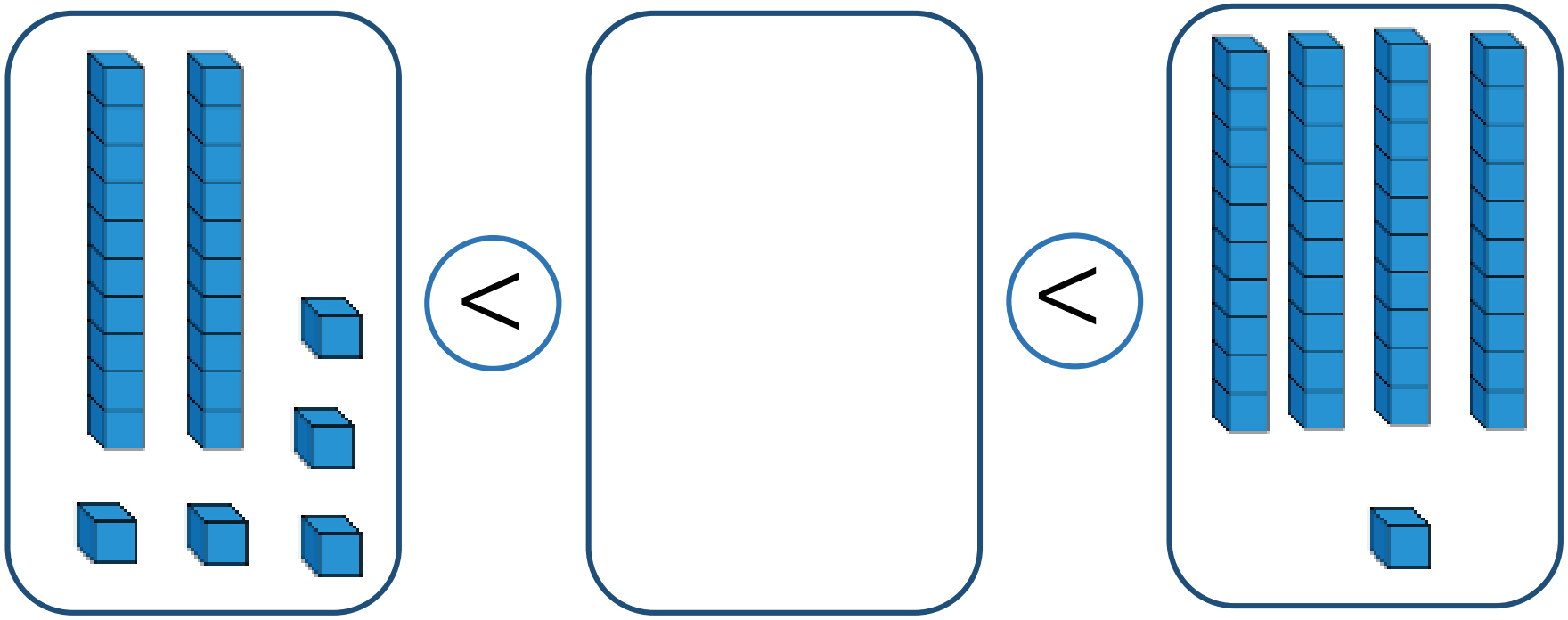
Change one thing in the values so they are equal.
Can you solve the challenge in more than one way?

Spot the mistake

$$12 > 21 > 33 > 35$$

Can you correct it and write the statement correctly?

Find at least 5 different numbers that could complete the statement.

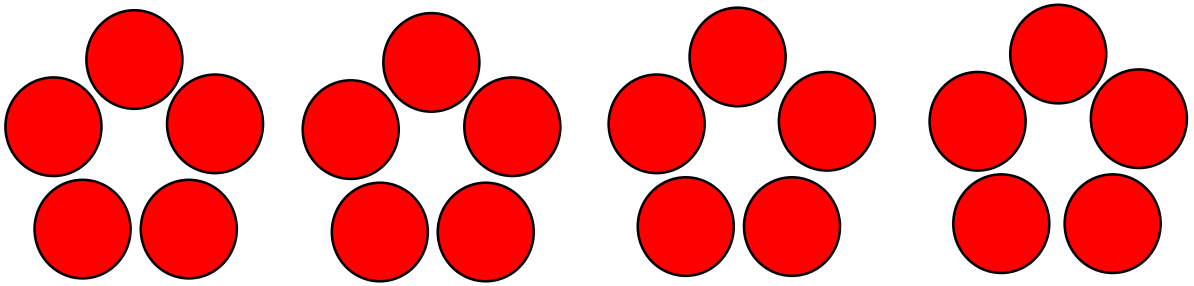


Always, sometimes, never…

When you count in twos, your digits will be 0, 2, 4, 6, 8

Prove it!

Amir is making this flower pattern with counters.

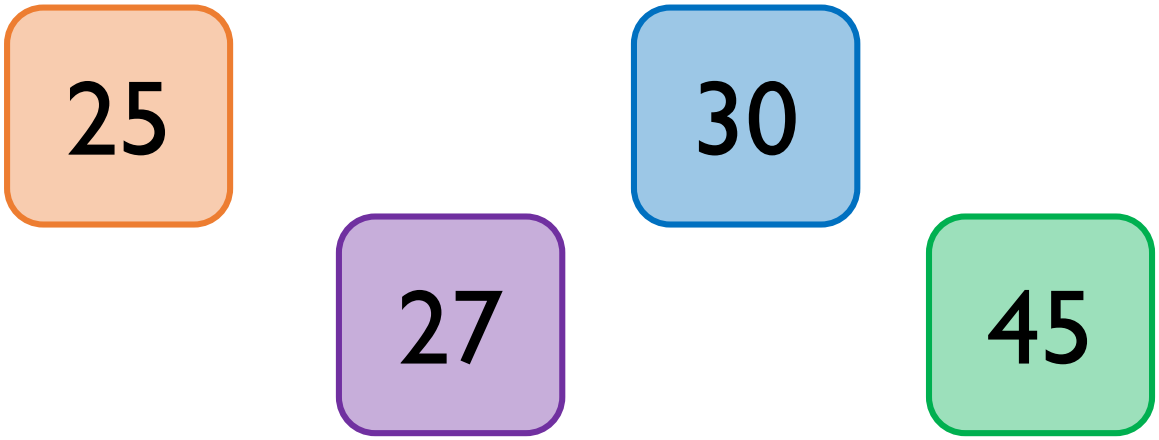


Annie says,

If you make 9 flowers, you will use 43 counters.

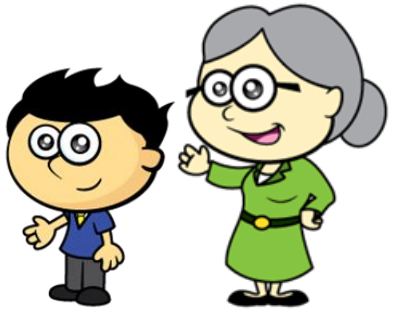
Do you agree with Annie?
Explain your answer.

Odd One Out



Which is the odd one out? Explain your answer.
Can you answer the question in more than one way?

Rosie, Alex and Mo are comparing the height of Mrs Rose and Jack.



Rosie

Mrs Rose is tall than Jack.

Jack is short than Mrs Rose.

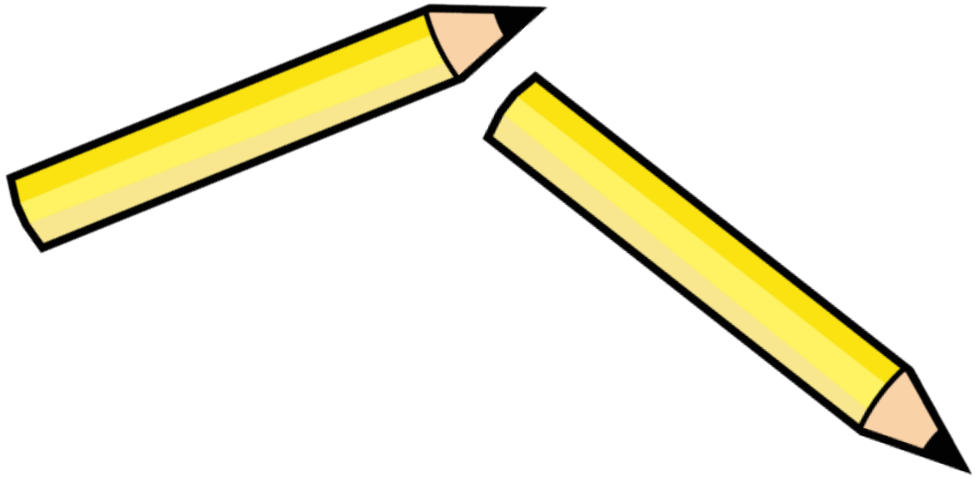
Alex

Mo

Mrs Rose is longer than Jack.

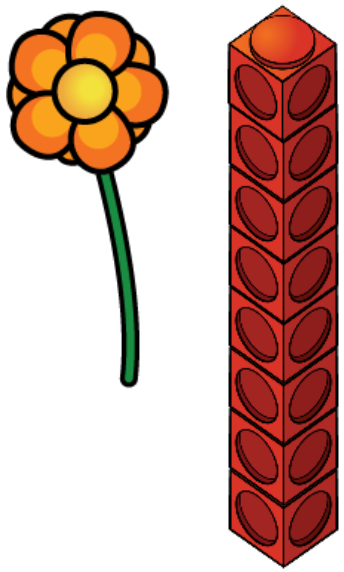
Can you improve their sentences to make them more accurate?

Eva thinks the pencils are the same length.



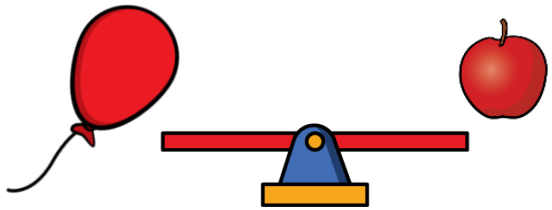
How can Eva check if she is correct?

True or false?

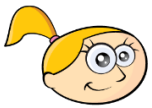


The flower is 8 cubes tall.
Explain your answer.

The class are seeing whether the balloon or apple will weigh more.



Eva



The balloon will be heavier because it is bigger than the apple.

Whitney

The balance will be level because they are both red.

Mo

The apple will go down because it is lighter.

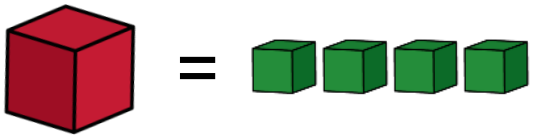
Teddy

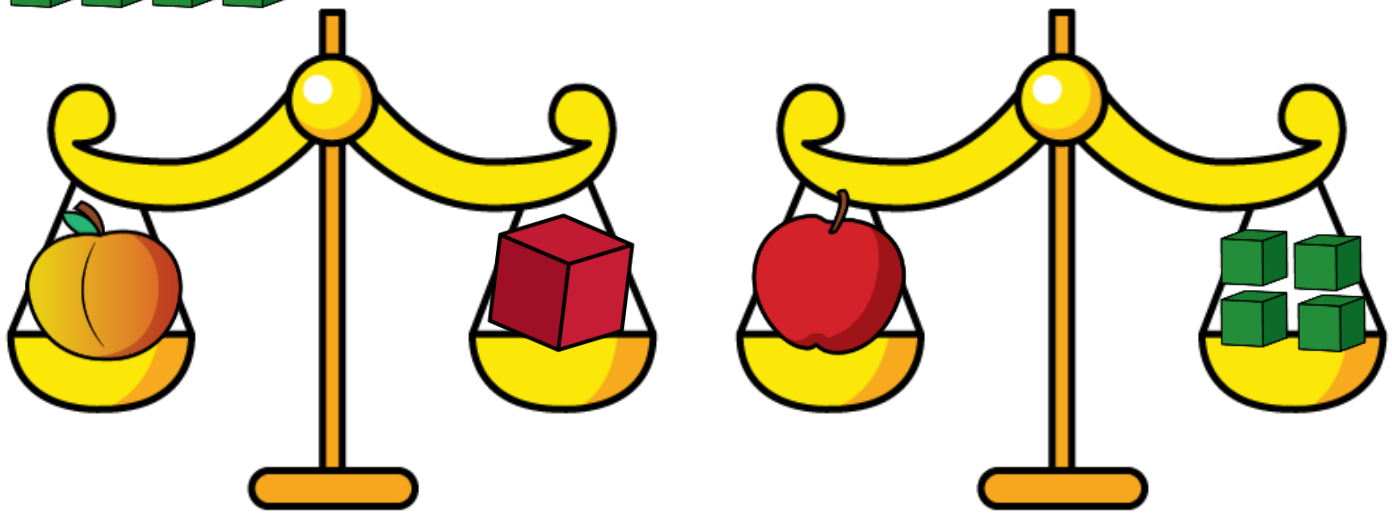
The balloon will go up because it is lighter.

Who is correct? Explain why.

I'm thinking of an object. It is heavier than a pencil, but lighter than a television.

What object could Jack be thinking of?
Prove it.
How many objects can you think of?





Amir says,

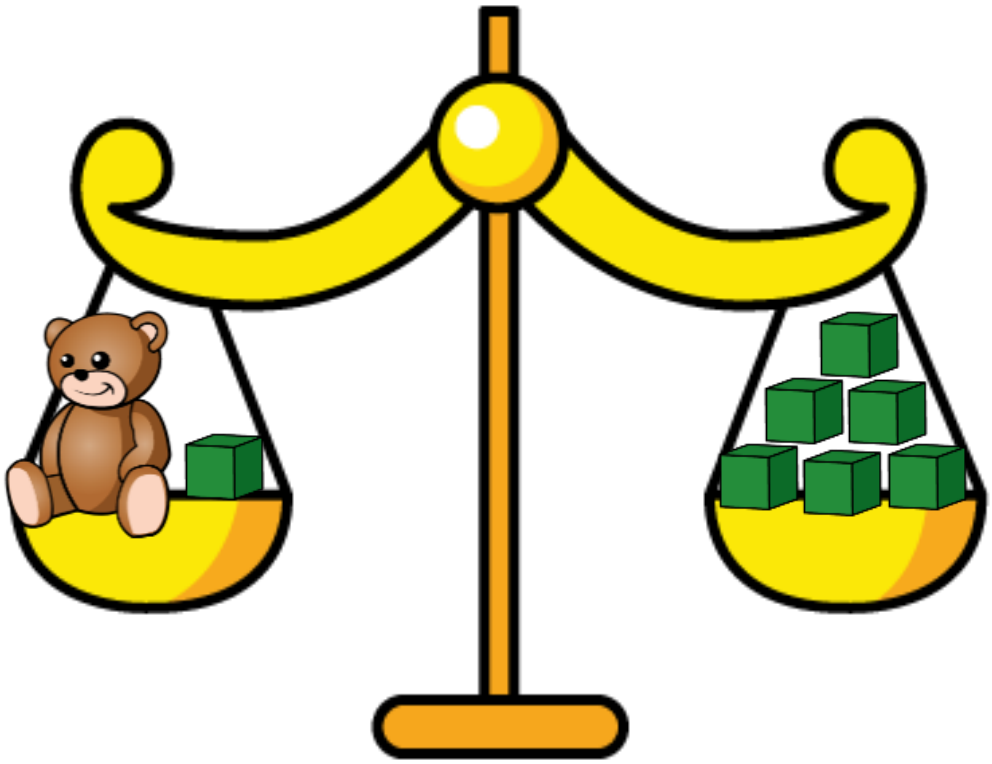
The apple is heavier than the peach, because it weighs 4 cubes.

Teddy says,

The apple and the peach weigh the same.

Who do you agree with?

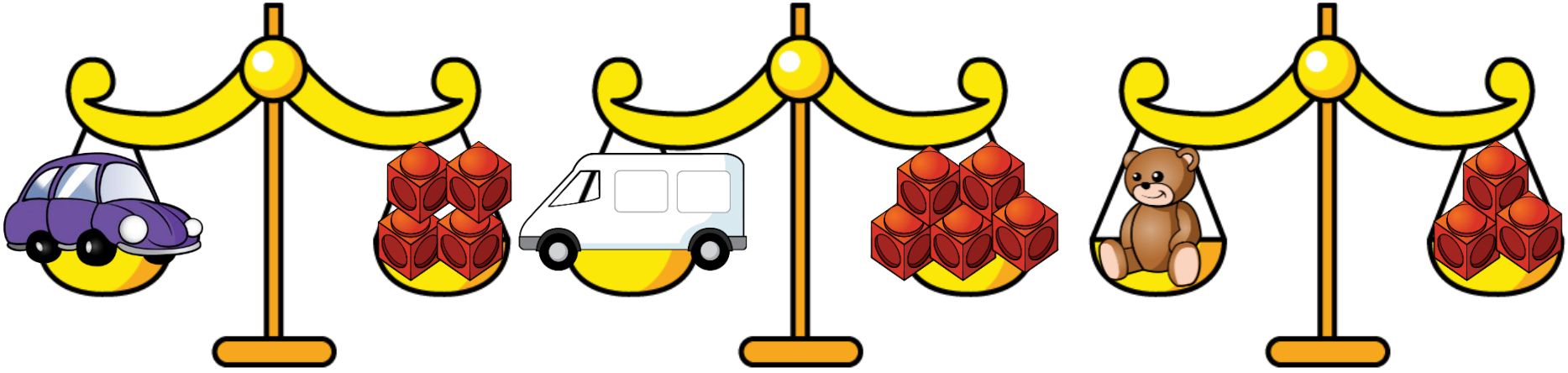
Explain why.



Look very carefully.
How many cubes does the teddy bear weigh?
Explain how you know.

Can you match the clue to the images?

1) My object weighs more than the car.
2) My object is less than 5 cubes.
3) My object is not the heaviest or the lightest.



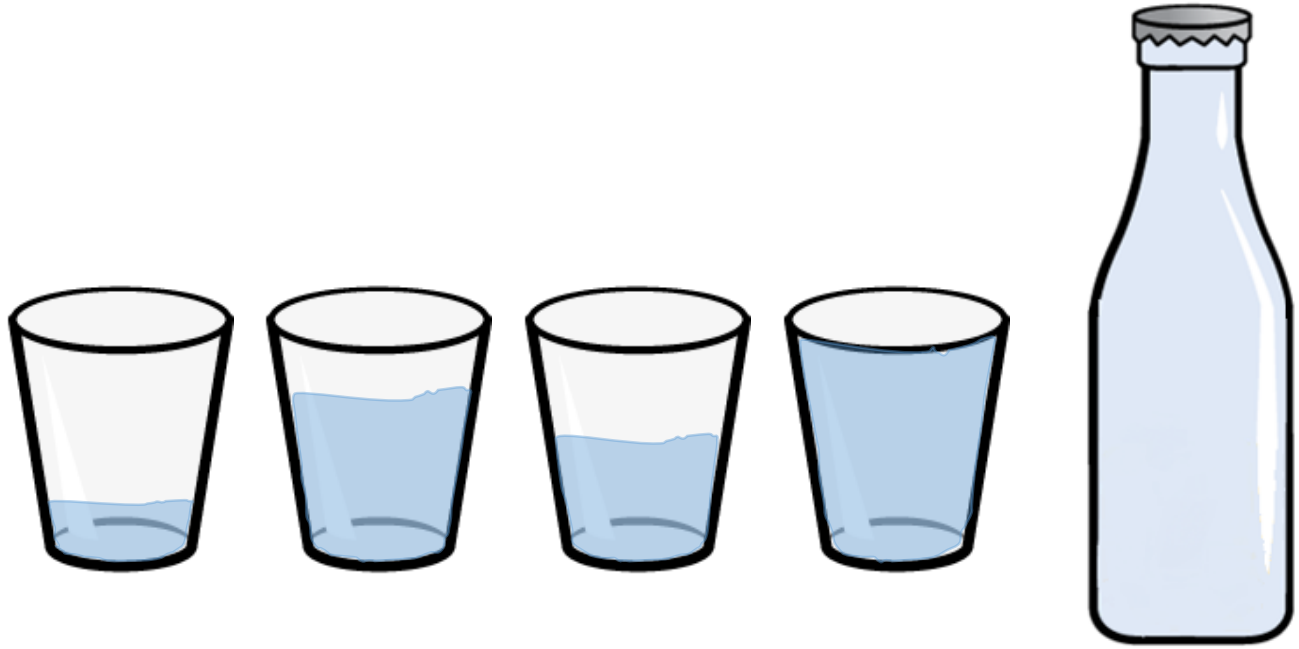
Always, Sometimes, Never?

The tallest container holds the most liquid.

Identical containers can have a different capacity.

Show me.

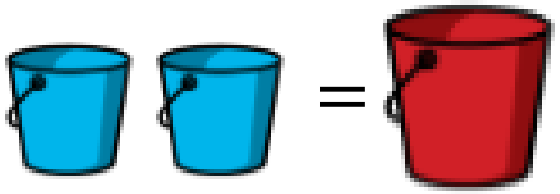
Whitney pours her cups into the bottle and they fill it exactly.



She says the bottle has a capacity of four cups. Do you agree?

It takes 5  to fill 1 

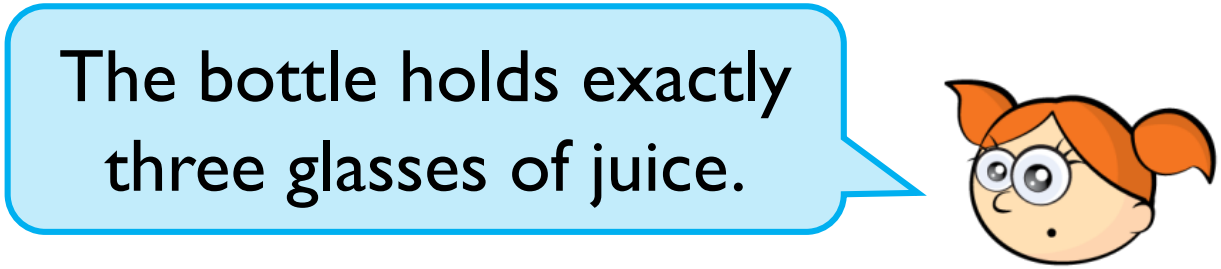
It takes 2  to fill 1 



How many  will fill one  ?

What else can you find out?

Alex has a bottle of juice. She pours three glasses of juice.

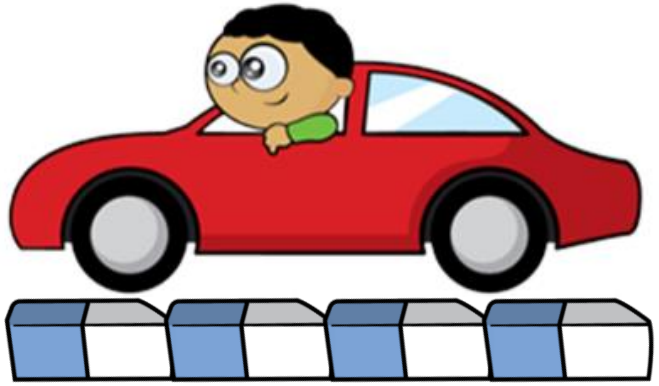


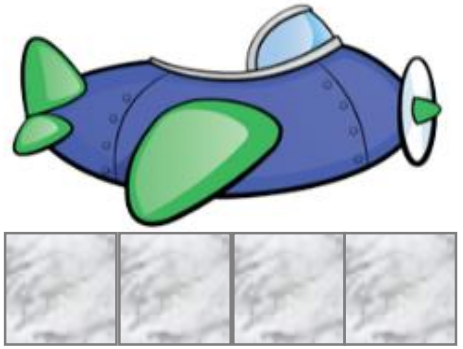
Do you agree? Explain why.

Choose three containers.

Investigate how you could compare the capacity of each one.

Whitney measures the length of two toys.





She says,

The toys are the same length.

Do you agree with Whitney?
Explain your answer.