

YEAR 3: FRACTIONS, DECIMALS AND PERCENTAGES

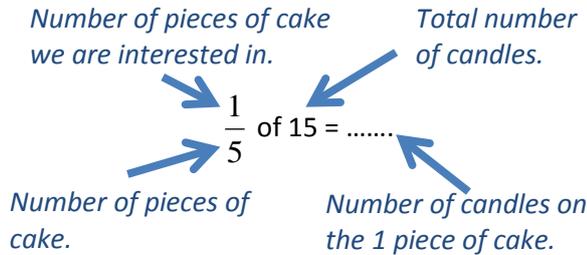
Strategy 1: I am learning to use repeated addition to solve 'Part Unknown' questions. (Numerators = 1)



View lesson online at:

www.teachertools.co.nz

**Example question:** There are 15 candles which must be shared evenly around a cake. How many candles must be on one fifth of the cake?



**Example answer:**

$$\frac{1}{5} \text{ of } 15 = 3$$

**Step 1:** Draw a cake and split it into 5 pieces.

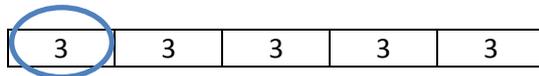


**Step 2:** Use your repeated addition to work out how many candles should be on every piece.

e.g.  $3 + 3 + 3 + 3 + 3 = 15$



**Step 3:** The question says we need to find how many candles are on one of the pieces. So circle one of the pieces. This is your answer.



1) Fill in the gaps below.

a)  $\frac{1}{2}$  of 18 = .....

Draw a cake and use repeated addition to fill the cake.

9	9		
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Circle 1 piece.  
The answer is: **9**

d)  $\frac{1}{5}$  of 30 = .....

Draw a cake and use repeated addition to fill the cake.

6	.....	.....	.....	.....
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Circle 1 piece.  
The answer is: .....

g)  $\frac{1}{4}$  of 16 = .....

Draw a cake and use repeated addition to fill the cake.

.....	.....	.....	.....
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Circle 1 piece.  
The answer is: .....

b)  $\frac{1}{4}$  of 20 = .....

Draw a cake and use repeated addition to fill the cake.

5	5	.....	.....
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Circle 1 piece.  
The answer is: **5**

e)  $\frac{1}{10}$  of 50 = .....

Draw a cake and use repeated addition to fill the cake.

5	.....	.....	.....	.....
.....	.....	.....	.....	.....

Circle 1 piece.  
The answer is: .....

h)  $\frac{1}{3}$  of 21 = .....

Draw a cake and use repeated addition to fill the cake.

.....	.....	.....
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Circle 1 piece.  
The answer is: .....

c)  $\frac{1}{3}$  of 12 = .....

Draw a cake and use repeated addition to fill the cake.

4	.....	.....
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Circle 1 piece.  
The answer is: **4**

f)  $\frac{1}{2}$  of 20 = .....

Draw a cake and use repeated addition to fill the cake.

10	.....
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Circle 1 piece.  
The answer is: .....

i)  $\frac{1}{5}$  of 20 = .....

Draw a cake and use repeated addition to fill the cake.

....	...	....	....	....
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Circle 1 piece.  
The answer is: .....

**2) Complete the following questions. Draw diagrams to help you answer these questions.**

a)  $\frac{1}{2}$  of 16 = .....

d)  $\frac{1}{5}$  of 45 = .....

g)  $\frac{1}{2}$  of 12 = .....

b)  $\frac{1}{4}$  of 8 = .....

e)  $\frac{1}{2}$  of 12 = .....

h)  $\frac{1}{4}$  of 16 = .....

c)  $\frac{1}{3}$  of 18 = .....

f)  $\frac{1}{10}$  of 30 = .....

i)  $\frac{1}{3}$  of 9 = .....

**3) Word Problems.**



a) A painter has 12 cans of paint. He has opened  $\frac{1}{4}$  of them. How many cans has he opened?

Hint



b) Room 8 has bought 16 new pairs of scissors.  $\frac{1}{2}$  of them have blue handles. How many pairs of scissors have blue handles?

Hint

c) Susan has made 25 cupcakes. She has iced  $\frac{1}{5}$  of these. How many cupcakes has she iced?



Hint

d) A café must make 12 cups of coffee. They have made  $\frac{1}{3}$  of these. How many cups of coffee have they made?



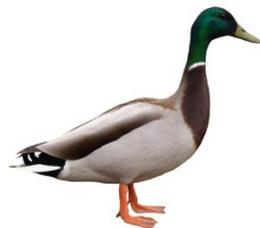
Hint



e) Daniel has taken 60 photos. He deletes  $\frac{1}{10}$  of these. How many photos has he deleted?

Hint

f) Sarah has counted 18 ducks at the park.  $\frac{1}{2}$  of the ducks are playing in the water. How many ducks are in the water?



Hint

g) A golfer had 20 golf balls. He lost  $\frac{1}{5}$  of them. How many golf balls does he have left?



Hint

**Key Points**

Use repeated addition to solve 'Part Unknown' problems.

**Why**

'Part Unknown' problems require you to share out all the items between a certain number of groups and then identify how many are in one or more of the groups. Using repeated addition is a good way to do this.