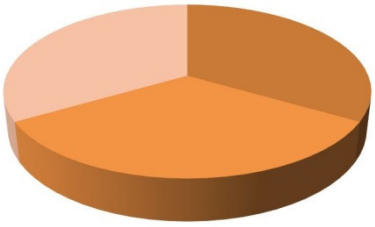
Using 3rds. *Stg 5*  *props & rats*  Name: _____

Like any fraction, thirds show a whole thing or number that has been chopped up into 3 equal parts. Like the pie shown below – it is one whole pie, but has been cut into 3 delicious slices.



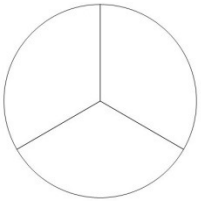
You can choose to have **1** piece of pie – the fraction would look like this: $\frac{1}{3}$ ← the number on top says you have 1 piece.

← The bottom number tells you that it has been chopped into **3** parts… But, what if you are really hungry? Perhaps you could eat **2** pieces of pie! Well, then the fraction looks a little different:

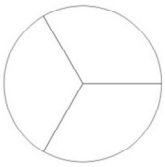
$\frac{2}{3}$ ← This time you have **2** parts of the pie (the top number is the '***numerator***')

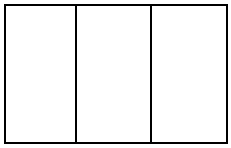
← But the pie is still sliced into **3**. (The bottom number is the ***'denominator'***)

Let's have a little practice. Colour the fractions shown, in the shapes below:

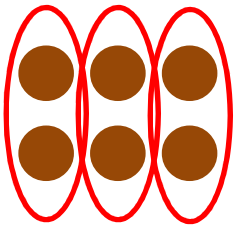
$\frac{2}{3}$ 

$\frac{1}{3}$ 

$\frac{3}{3}$ 

$\frac{2}{3}$ 

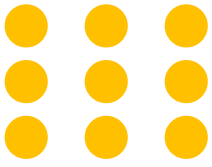
Ok, so thirds of a whole thing are pretty easy to understand. *Yes they are!* What about finding out what thirds of sets are, or numbers bigger than 1? For example, if I have **6** biscuits for morning tea. My 2 friends and I (**3** of us altogether) want to share them out equally. We can chop our set of 6 into 3 smaller groups using thirds.



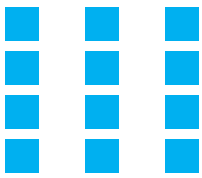
1/3 of 6 = 2

By equal sharing, I can quickly see that 6 biscuits put into 3 groups, gives me 2 in each. My friends and I would get 2 bikkies each! Yum.

Righto mighty maths midgets, let's have a go:

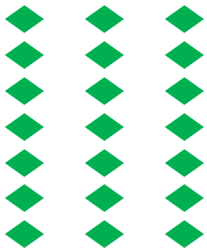


1/3 of 9 = __



1/3 of 12 = __

1/3 of 15 = __



1/3 of 21 = __

OK, this time without pictures: (You can use counters if you get stuck)

1. 1/3 of 18 = ___
2. 1/3 of 24 = ___
3. 1/3 of 33 = ___
4. 1/3 of 27 = ___
5. 1/3 of 3 = ___
6. 1/3 of 30 = ___
7. 1/3 of 9 = ___
8. 1/3 of 15 = ___
9. 1/3 of 12 = ___

'One third' in Te Reo Māori is *Kotahi hautoru*. 'Two thirds' is *rua hautoru*

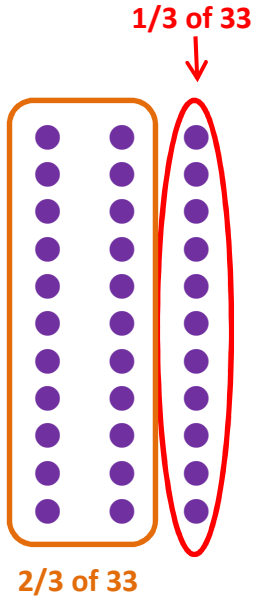
Dave Moran 2015

Using 3rds. *Stg 6*  *props & rats*  Name: _____

Fractions and division are like close cousins in the family of maths – they both talk about chopping numbers up into smaller equal groups. Where division can show you 1/3rd of something by dividing by 3, a fraction can show 2/3rds or even 3/3rds (a whole)– very handy

For example: We know that **33 ÷ 3 = 11.** So then we can easily say that **1/3rd of 33** is also **11**. – It's the same thing, only written down differently. But what if the number on top of the fraction (the numerator) is bigger? Like **2/3rds of 33?** Well, we are still chopping up 33 into 3 parts, but we are talking about **more** of the parts than just one.

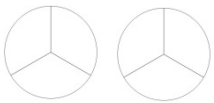
So if 1/3rd of 33 = 11 … 2/3rd of 33 = (2 x 11) = 22



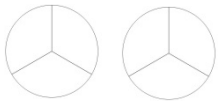
Let's try a few for ourselves:

1. 1/3 of 12 = ___ so 2/3 of 12 = (2 x ____) = ____
2. 1/3 of 33 = ___ so 2/3 of 33 = (2 x ____) = ____
3. 1/3 of 6 = ___ so 2/3 of 6 = (2 x ____) = ____
4. 1/3 of 27 = ___ so 2/3 of 27 = (2 x ____) = ____
5. 1/3 of 24 = ___ so 2/3 of 24 = (2 x ____) = ____
6. 1/3 of 21 = ___ so 2/3 of 21 = (2 x ____) = ____
7. 1/3 of 18 = ___ so 2/3 of 18 = (2 x ____) = ____
8. 1/3 of 15 = ___ so 2/3 of 15 = (2 x ____) = ____
9. 1/3 of 9 = ___ so 2/3 of 9 = (2 x ____) = ____
10. 1/3 of 30 = ___ so 2/3 of 30 = (2 x ____) = ____

Here's a thought. *Can you have a fraction that is more than one whole pie?* You sure can, but naturally, you need another pie. We know 3 thirds (3/3) is the whole thing. So what would **5/3** look like? The pies are still chopped into thirds, but now there is a whole pie plus another few pieces.

Shade $\frac{4}{3}$ 

Shade $\frac{7}{3}$ 

Shade $\frac{6}{3}$ 

Shade $\frac{8}{3}$ 

I could also figure out how many thirds would be in a mixed fraction.

Say I had **1** and 1/3 pies. How many thirds is that? I can see **1**/3, and I know there are **3** thirds in the whole pie. So **3 + 1 = 4**. There are **4**/3

a. **1** 2/3 = (3/3 + 2/3) = _____ (Tip: when adding fractions, leave the denominator, just add the tops)

b. **2** 1/3 = (6/3 + 1/3) = _____ (Show your answers as an improper fraction)

c. **3** 1/3 = (9/3 + 1/3) = _____ (To get 9/3, you just go 3 x 3)

d. **1** 1/3 = (3/3 + 1/3) = _____

e. **4** 2/3 = (12/3 + 2/3) = _____

The Denominator. He'll be back.

Dave Moran 2015