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# Maths Tasks – Yellow and Blue Challenge

Find unit fractions of quantities	Find non-unit fractions of quantities
$\frac{1}{2}$ of 18 = 9	$\frac{2}{3}$ of 12 = 8
$\frac{1}{3}$ of 9 = 3	$\frac{3}{4}$ of 20 = 15
$\frac{1}{4}$ of 12 = 3	$\frac{2}{3}$ of 18 = 12
$\frac{1}{5}$ of 30 = 6	$\frac{2}{5}$ of 10 = 4
$\frac{1}{3}$ of 18 = 6	$\frac{5}{8}$ of 24 = 15
$\frac{1}{4}$ of 20 = 5	$\frac{3}{10}$ of 40 = 12
$\frac{1}{6}$ of 24 = 4	$\frac{3}{4}$ of 36 = 27
$\frac{1}{8}$ of 48 = 6	$\frac{4}{7}$ of 35 = 20
$\frac{1}{5}$ of 35 = 7	$\frac{5}{8}$ of 56 = 35
$\frac{1}{7}$ of 28 = 4	$\frac{7}{10}$ of 90 = 63
$\frac{1}{8}$ of 80 = 10	$\frac{6}{11}$ of 55 = 30
$\frac{1}{10}$ of 60 = 6	$\frac{5}{12}$ of 36 = 15

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## Maths Tasks – Green Challenge

1. Read problem carefully
2. Identify key information
3. Solve using the correct method
4. APE

Solve these word problems using the correct steps.

1. There are 24 footballs. One third need pumping up. How many footballs need pumping up?  
 $24 \div 3 = 8$ . 8 footballs need pumping up.
2. There are 30 tissues in a packet. One sixth have already been used. How many tissues have already been used?  
 $30 \div 6 = 5$ . 5 tissues have already been used.
3. A box of chocolates has 35 chocolates in it. One seventh have already been eaten. How many chocolates have been eaten already?  
 $35 \div 7 = 5$ . 5 chocolates have been eaten already.
4. A television programme lasts for 40 minutes. One quarter of the programme is adverts. How long is the programme itself?  
 $40 \div 4 = 10$ .  $40 - 10 = 30$ . The programme is 30 minutes long.
5. A bicycle costs £70. In a sale, the price is cut by one tenth. What is the new price?  
 $70 \div 10 = 7$ .  $£70 - £7 = £63$ . The new price is £63.
6. A piece of wood is 60cm long. One third is cut off. How long is the original piece of wood now?  
 $60 \div 3 = 20$ .  $60\text{cm} - 20\text{cm} = 40\text{cm}$ . The original piece of wood is 40cm.
7. There are 45 stickers in a packet. Two fifths have already been used. How many stickers have already been used?  
 $45 \div 5 = 9$ .  $9 \times 2 = 18$ . 18 stickers have already been used.
8. There are 66 seats in a café. Three elevenths of the seats are currently occupied. How many of the café's seats are currently being used?  
 $66 \div 11 = 6$ .  $6 \times 3 = 18$ . 18 seats are currently being used.

More green challenge on the next page

9. There are 72 stalls at a market. Five eighths sell food. How many of the market stalls are selling food?

$72 \div 8 = 9$ .  $9 \times 5 = 45$ . 45 of the stalls are selling food.

10. There are 27 children in a class. Seven ninths of the class live in the village. How many children do not live in the village?

$27 \div 9 = 3$ .  $3 \times 7 = 21$ .  $27 - 21 = 6$ . 6 children do not live in the village.

11. Clara has 96 books. She keeps three eighths of the books on her bookshelf. How many books does she not keep on her bookshelf?

$96 \div 8 = 12$ .  $12 \times 3 = 36$ .  $96 - 36 = 60$ . She does not keep 60 books on her bookshelf.

12. A cake weighs 320g. Three quarters of the cake is eaten. What is the weight of the cake that is left?

$320 \div 4 = 80$ .  $80 \times 3 = 240$ .  $320\text{g} - 240\text{g} = 80\text{g}$ . 80g of the cake is left.

Now come up with your own similar problems. Can you solve them too?

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## Maths Tasks – White Challenge

1. Read problem carefully
2. Identify key information
3. Solve using the correct method
4. APE

Solve these word problems using the correct steps.  
You may wish to use short division to help you.

1. In a flower shop, seven twelfths of the tulips are red. If there are 56 red tulips, how many tulips are there in total in the shop?  
 $56 \div 7 = 8$ .  $8 \times 12 = 96$ . There are 96 tulips in total in the shop.
2. In a row of houses, sixth eighths have a green front door. If there are 54 green front doors, how many houses are there in the row in total?  
 $54 \div 6 = 9$ .  $9 \times 8 = 72$ . There are 72 houses altogether.
3. In a car park, four sevenths of the vehicles have a sun roof. If there are 60 vehicles with sun roofs, how many vehicles in total are there in the car park?  
 $60 \div 4 = 15$ .  $15 \times 7 = 105$ . There are 105 vehicles in the car park.
4. In a box of chocolates, two thirds of the chocolates have a caramel centre. If there are 84 caramel centred chocolates, how many chocolates are there in the box in total?  
 $84 \div 2 = 42$ .  $42 \times 3 = 126$ . There are 126 chocolates in the box.
5. Hardeep is making a fruit smoothie. He uses seven ninths of a cup of apple juice. If he uses 84 millilitres of apple juice, what was the volume of juice in the whole cup?  
 $84 \div 7 = 12$ .  $12 \times 9 = 108$ . There is 108 millilitres of juice in the whole cup.
6. A clothes shop is having a sale. The price of a pair of trainers is seven tenths of the original price. If the sale price of the trainers is £49, what was the original price?  
 $49 \div 7 = 7$ .  $7 \times 10 = 70$ . The original price was £70.
7. Sarah's school held a sponsored silence. They raised eleven twelfths of their target amount. If the school raised £99, what was the target amount for the sponsored silence?  
 $99 \div 11 = 9$ .  $9 \times 12 = 108$ . The target amount was £108.

More white challenge on the next page

8. In the crowd of spectators at a football match, three quarters of the people have scarves on. If there are 135 people wearing scarves, how many people are there in total watching the match?  
 $135 \div 3 = 45$ .  $45 \times 4 = 180$ . There are 180 people in total watching the match.
9. In a crate of marbles, two thirds of the marbles are blue. If there are 210 blue marbles, how many marbles are there in the crate in total?  
 $210 \div 2 = 105$ .  $105 \times 3 = 315$ . There are 315 marbles in the crate.
10. The recipe for a cake says to use three fifths of a bag of sugar. If the recipe uses 165 grams of sugar, how many grams of sugar were in the bag in total?  
 $165 \div 3 = 55$ .  $55 \times 5 = 275$ . There was 275g of sugar in total.
11. In a row of houses, six eighths have a green front door. If there are 192 green front doors, how many houses are there in the row in total?  
 $192 \div 6 = 32$ .  $32 \times 8 = 256$ . There are 256 houses in total.
12. An electronics shop is having a sale. The price of a television is seven tenths of the original price. If the sale price of the television is £616, what was the original price?  
 $616 \div 7 = 88$ .  $88 \times 10 = 880$ . The original price was £880.

Now come up with your own similar problems. Can you solve them too?