

### Christmas Fractions and Decimals Word Problems

1. Jane and Rob each make 96 biscuits for Christmas. Jane divides hers into eight equal bags and gives away three of the bags to her friends. Rob divides his into 12 bags, giving away five of the bags to his friends.

Compare the two fractions of their biscuits that they give away in a number sentence.

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2. A butcher has four turkeys left to sell. The butcher decides to display their weights in fractions of a kilogram.

$$4\frac{3}{10} \text{ kg} \quad \frac{22}{5} \text{ kg} \quad 4\frac{1}{4} \text{ kg} \quad \frac{13}{3} \text{ kg}$$

Order the turkeys from lightest to heaviest.

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3. A farmer has to deliver two different weights of vegetables. There are 63 bags of carrots weighing  $\frac{1}{4}$  kg and 39 bags weighing  $\frac{2}{3}$  kg. Which set of boxes is heavier?



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4. A printer used A3 card (42cm × 29.7cm) to print Christmas present tags. The tags are cut to the size 6.8cm × 4.3cm.



How many tags can be made using one sheet of A3 card? Calculate both in landscape and portrait orientation.

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5. A shop sells three different packs of Christmas cards.

- a) 12 cards with 25% extra free. **£2.99**
- b) eight cards **£1.80**,  $\frac{1}{5}$  off marked price.
- c) eight cards **£1.96**, buy one, get the second half price.

Which is the cheapest way to buy 16 Christmas cards?

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6. A chocolate factory makes three types of chocolate tree decorations.  $\frac{5}{12}$  of the decorations are milk chocolate and  $\frac{1}{3}$  are dark chocolate.

What fraction of the decorations are white chocolate?

1935 milk chocolate decorations are made. How many dark and white chocolate decorations are made?

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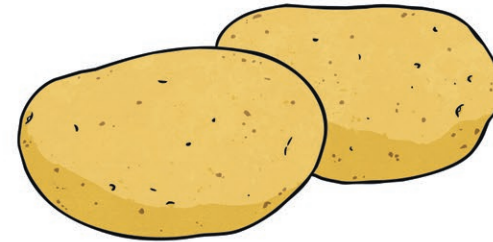
7. Marta makes a Christmas cake. She wants to divide the cake into equal slices which are  $\frac{1}{20}$  of the whole cake. She cuts the cake into quarters. Explain what Marta must do.



**8.** 32 lengths of tinsel are cut from pieces of tinsel that are 50m long. Using a division calculation, calculate how long will be each piece of tinsel to the nearest tenth of 1cm, giving your answer in metres.



**9.** A grocer sells potatoes in bags of 2.5kg. One bag contains 14 potatoes. What is the average mass of one potato to the nearest thousandth of a kilogram?



**10.** Angela wants to buy 3kg potatoes for her Christmas dinner. She visits her local grocer who has potatoes in the following formats:

- a) 1kg bag @75p with  $\frac{1}{3}$  off marked price
- b) 2kg bag with 50% extra free @ £1.49
- c) 1.25kg bag with 20% extra free @ 74p

Which is the cheapest way to buy 3kg potatoes?

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### Answers

1.  $\frac{3}{8} < \frac{5}{12}$

2.  $4\frac{1}{4}$ kg,  $4\frac{3}{10}$ kg,  $\frac{13}{3}$ kg,  $\frac{22}{5}$ kg

3.  $63 \times \frac{2}{5} = 15\frac{3}{4}$ kg,  $39 \times \frac{2}{3} = 26$ kg,  
39 bags of  $\frac{2}{3}$ kg are heavier.

4. **Landscape:**  $6 \times 6 = 36$  ( $40.8 \times 25.8$ cm)

**Portrait:**  $4 \times 9 = 36$  ( $27.2$ cm  $\times$   $38.7$ cm)

5. Two packs of eight cards £1.80,  $\frac{1}{5}$  off marked price

6.  $\frac{3}{12}$  or  $\frac{1}{4}$

1548 dark chocolate, 1161 white chocolate

7.  $\frac{1}{4} \times \frac{1}{5} = \frac{1}{20}$

Cut each quarter into five equal pieces

8.  $1.563\text{m} = \begin{array}{r} 1.5625 \\ 32 \overline{)50.0000} \\ \underline{32} \\ 18.0 \\ \underline{16.0} \\ 2.00 \\ \underline{1.92} \\ 80 \\ \underline{64} \\ 160 \end{array}$

9. 0.179kg

10. £1.50, £1.49p, £1.48

$2 \times 1.25$ kg bag (+20%) is cheapest

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