All Kinds of Word Problems

Fractions and Decimals
10 Questions, Answers and a Challenge

Year 5

THIRD SPACE
LEARNING

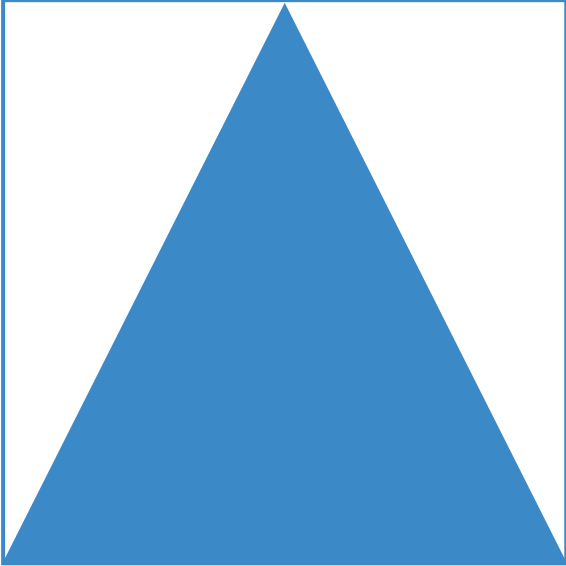# Year 5 Problems on Fractions and Decimals

Name..

Date.......................................Class..

School ....

> 🚀 Please write your answer on the answer line provided. You can use the space provided below the question for working out if you need it.

1 Nicolas has a square and inside the square is an equilateral triangle.
Can you identify what fraction of the square is taken up by the equilateral triangle?

Answer ....

2 A candle is 36 cm tall.
After burning for 2 hours, its height has decreased by $\dfrac{3}{9}$
What is its new height?

Answer ....
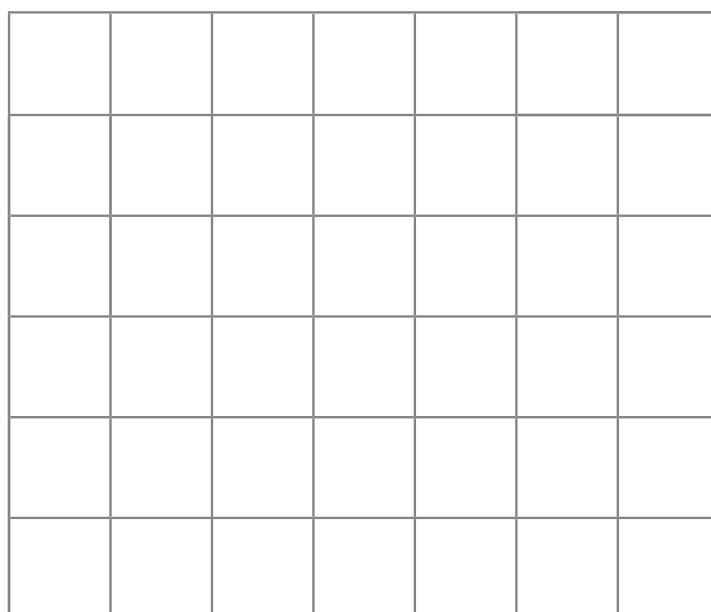
3 Using this grid, can you shade and write:

a A fraction equivalent to $\dfrac{1}{2}$?

b A fraction equivalent to $\dfrac{1}{4}$?

Answer a ....

Answer b ....

4 There are 115 mooring spaces for boats in a marina.

When Martin visits, only $\frac{20}{25}$ of the spaces are occupied.

How many boats are not moored?

Answer ....

5 Charlie is thinking of a number.

$\frac{1}{3}$ of the number is 35.

Can you find out what $\frac{3}{7}$ of the number would be?

Answer ....

6 Joe has converted some fractions into decimals but Will has told him to look again at the calculations below as they are incorrect.

Can you help Joe by writing out the correct conversions on the answer lines below?

a $\dfrac{1}{5} = 0.3$ b $\dfrac{3}{25} = 0.15$ c $\dfrac{1}{4} = 0.28$

d $\dfrac{2}{50} = 0.02$ e $\dfrac{2}{10} = 0.1$ f $\dfrac{2}{3} = 0.7$

Answer a ....

Answer b ....

Answer c ....

Answer d ....

Answer e ....

Answer f ....

7 At a carnival, the big wheel has 69 cabins. Each cabin seats 2 people.

If $\dfrac{6}{9}$ of the cabins are fully occupied, how many people are on the big wheel?

Answer ....

---

8 Hillary and Annie are reading the same book. It has 680 pages.

Hillary has got $\dfrac{2}{5}$ of the way through. Annie has got $\dfrac{7}{10}$ of the way through.

Who has read more pages?

Answer ....

9 Hayley, Rebecca and Jack share some marshmallows.

Rebecca has twice as many as Hayley.

Jack has $\dfrac{3}{10}$ more than Hayley.

They have 86 in total.

How many does each person have?

Answer   Rebecca .... Jack .... Hayley ....

10 Sami worked in a shop for $\dfrac{4}{5}$ of a 9 hour day.

Tim worked in a shop for $\dfrac{4}{6}$ of an 11 hour day.

Who worked the most hours?

Answer ....

Challenge Question!

Rachel earns £650 a week. She is paid every 4 weeks and has $\dfrac{3}{8}$ taken off in tax.

She then pays $\dfrac{2}{5}$ of the remainder in rent and bills.

a How much money does she have left each month?

b How much would this be over the year?

Answer a £..

Answer b £..

Answer Sheet

1 The triangle takes up $\frac{1}{2}$ the square.

Content Domain: Fraction representation (5F2b)

---

2 24 cm

Content Domain: Fraction of amount (5F2b)

3

a. They should have shaded in 18 squares. $\frac{1}{2} = \frac{18}{36}$

b. They should have shaded in 9 squares. $\frac{1}{4} = \frac{9}{36}$

Content Domain: Equivalence using representation (5F2b)

---

4 23 boats are not moored.

Content Domain: Converting equivalent fractions into amounts (5F2b)

---

5 $\frac{3}{7}$ of Charlie's number is 105 because:

If a $\frac{1}{3}$ of number = 35 then the whole number is 35 x 3 = 105.

$\frac{3}{7}$ of 105 = 45

Content Domains: Finding values of fractions (5F2b, 5F12)

6

a. $\frac{1}{5} = 0.2$

b. $\frac{3}{25} = 0.12$

c. $\frac{1}{4} = 0.25$

d. $\frac{2}{50} = 0.04$

e. $\frac{2}{10} = 0.2$

f. $\frac{2}{3} = 0.66$ recurring

Content Domains: Fraction and decimal conversion (5F2b, 5F6a)

---

7 92 people.

Content Domain: Fractions of amounts (5F2b)

---

8 Annie has read more pages.
Hilary has read 272.
Annie has read 476.

Content Domains: Fractions of amounts (5F2b, 5F6b, 5F12)

---

9   Hayley = 20
Rebecca = 40
Jack = 26

Content Domains: Fractions of amounts (5F2b, 5F6b, 5F12)

10   Timi worked the most hours as he worked $\frac{4}{6}$ of 11 hours = 7.33 hours (rounded to 2 decimal places).

Sami worked $\frac{4}{5}$ of 9 hours = 7.2 hours.

Content Domains: Solving complex fractions using time (5F8, 5F10, 5F12)

Challenge Question

   a. £585 per month.
   b. £7,020 per year.

Content Domains: Fractions of amounts using money (5F2b, 5F6b, 5F12)