

All Kinds of Word Problems

Fractions and Decimals
10 Questions, Answers and a
Challenge

Year 6



THIRD SPACE
LEARNING

Year 6 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

A rectangle has a perimeter of 18cm and an area of 20cm^2 .

What could its length and width be?



Answer Perimeter Area

- 2 Sonja has a square split equally into 144 parts. She needs to shade it in using different fractions.

$\frac{1}{4}$ needs shading in blue

$\frac{3}{8}$ red

$\frac{3}{16}$ yellow

$\frac{1}{8}$ black

$\frac{1}{16}$ green

Can you work out how many of the parts will be shaded in each colour?



Answer Blue..... Red..... Yellow..... Black..... Green.....

3

Dani's class has done a test.

If $\frac{5}{8}$ of the class achieved 26 out of 40 and the whole class achieved a combined score of 950, then what score did the rest of the class achieve? (The second group of children all achieved the same score out of 40.)



Answer

4

George's age is $\frac{1}{4}$ more than Jamie's. George's age is $\frac{2}{3}$ of Ben's age.

If Jamie is 16, how old are George and Ben?



Answer George..... Ben..... Jamie.....

5 Elijah is making three cups of tea. He fills the kettle to the 1 litre mark.

He uses $\frac{3}{4}$ of the water from the kettle which he pours into the cups. Each cup gets an equal amount of water.

How much water does each cup contain?



Answerml

6

Susie bought paint for each class in school.

If she bought 12 litres of paint altogether, can you simplify the fractions and then work out how many millilitres of each colour she bought?

$\frac{4}{16}$ blue paint

$\frac{32}{62}$ red paint

$\frac{1}{8}$ yellow paint

$\frac{4}{32}$ white paint



Answer Blue paint.....ml Red paint.....ml

Yellow paint.....ml White paint.....ml

7

Can you help Rosie correct the answers to her calculations?

Write out each calculation with the corrected answer on the corresponding answerline below.

a $0.08 + 0.13 = 0.19$

b $1.67 - 0.76 = 0.92$

c $3.72 \times 1.05 = 3.816$

d $6.5 \div 3.25 = 2.1$

e $0.43 + 1.05 = 1.41$

f $7.03 - 4.15 = 2.67$



Answer a

Answer b

Answer c

Answer d

Answer e

Answer f

8

Andy has baked three cakes for his school's bake sale. He has baked a chocolate cake, a red velvet cake and a carrot cake.

He cuts each cake into 24 slices. One slice of chocolate cake is sold for £1.35.

One slice of red velvet cake is sold for 75p. One slice of carrot cake is sold for £1.10.

If he sells $\frac{1}{3}$ of the chocolate cake, $\frac{1}{2}$ of the red velvet cake and $\frac{1}{8}$ of the carrot cake then how much money does he make from his bake sale?

Answer £.....

9 Lawrence had 760 g of chocolate buttons. He shared them into 4 piles.

He put $\frac{10}{100}$ into the first pile.

He put $\frac{2}{10}$ into the second pile.

He put $\frac{300}{1000}$ into the third pile.

He put $\frac{2}{5}$ into the fourth pile.

How many chocolate buttons were in each pile?



Answer First pile..... Second pile..... Third pile..... Fourth pile.....

10 Five lions live in a zoo. Their names are Leo, Leah, Lionel, Laura and Larry. Their ages add up to 47.

Leo and Lionel are the same age and are $\frac{5}{8}$ of Larry's age.

Larry is twice Laura's age.

Leah is $\frac{3}{10}$ Leo and Lionel's age.

Can you work out how old each lion is?



Answer Leo..... Larry..... Leah..... Lionel..... Laura.....

Challenge Question!



Mr Sweetie the shopkeeper got a new stock of sweets:

112 packs of gummy bears.

96 chocolate bars.

125 packs of cola bottles.

102 packs of chocolate buttons.

98 boxes of smarties.

By the end of the day he sold:

$\frac{1}{4}$ of the gummy bears.

$\frac{1}{3}$ of the chocolate bars.

$\frac{2}{5}$ of the cola bottles.

$\frac{1}{6}$ of the chocolate buttons.

$\frac{3}{7}$ of the smarties.

How much of each did he have left?



Answer Gummy bears..... Cola bottles.....

Chocolate buttons..... Smarties.....

Answer Sheet

- 1 The length is 5cm and the width is 4cm or vice versa.

Content Domain: Equivalent fraction representation (6F2)

- 2 36 shaded blue
54 shaded red
27 shaded yellow
18 shaded black
9 shaded green

Content Domains: Fractions using visualisation of amounts (6F2, 6F3)

- 3 20

Content Domain: Fractions of amounts (6F3)

- 4 George is 20 years old.
Ben is 30 years old.

Content Domains: Problem solving using fractions (6F2, 6F3, 6F4)

- 5 250 ml

Content Domain: Converting fractions to amounts (6F2, 6F3, 6R1)

- 6 $\frac{1}{4}$ of blue paint = 3000 ml
 $\frac{1}{2}$ of red paint = 6000 ml
 $\frac{1}{8}$ of yellow paint = 1500 ml
 $\frac{1}{8}$ of white paint = 1500 ml

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

- 7 a. $0.08 + 0.13 = 0.21$
b. $1.67 - 0.76 = 0.91$
c. $3.72 \times 1.05 = 3.906$
d. $6.5 \div 3.25 = 2$
e. $0.43 + 1.05 = 1.48$
f. $7.03 - 4.15 = 2.88$

Content Domains: Decimals with four operations up to 2 decimal places (6F6, 6F9b, 6F9c)

- 8 Andy makes £23.10 from the bake sale.

$$\frac{1}{3} = 8 = \text{£}10.80$$

$$\frac{1}{2} = 12 = \text{£}9$$

$$\frac{1}{8} = 3 = \text{£}3.30$$

Content Domains: Fractions and money (decimals to 2 decimal places) (6F2, 6F3, 6F9a)

- 9 Pile 1 = 76 g
Pile 2 = 152 g
Pile 3 = 228 g
Pile 4 = 304 g

Content Domains: Fractions related to weight (6F2, 6F3, 6F10)

- 10 Leo and Lionel are both 10 years old.
Leah is 3 years old.
Laura is 8 years old.
Larry is 16 years old.

Content Domains: Problem solving using fractions (6F2, 6F11, 6R1)

Challenge Question

The following sweets will be left over:

Gummy Bears = 84

Chocolate Bars = 64

Cola Bottles = 75

Chocolate Buttons = 85

Smarties = 56

Content Domains: Problem solving using fractions (6F2, 6F11, 6R1)
