Multiples and Factors 6

A Times Tables

Examples :
a) List the first 10 multiples of 7.
b) Find the lowest common multiple of 3 and 4.

Working :
a) Remember the table of sevens!
Answer : 7, 14, 21, 28, 35, 42, 49, 56, 63, 70
b) Multiples of 3 are : 3, 6, 9, 12, 15, 18, . . .
Multiples of 4 are : 4, 8, 12, 16, 20, 24, . . .
The lowest multiple they have in common is 12.
Answer : The LCM of 3 and 4 is12.

1 List the first 10 multiples of . . .

a) 4 .....

b) 6 .....

c) 9 .....

2a) List some multiples that 4 and 6 have in common.

.....

Describe the common multiples of 4 and 6.

They are multiples of .....

b) Describe the common multiples of 6 and 9.

.....

c) Describe the common multiples of 4 and 9.

.....

3 Find the lowest common multiple (LCM) of . . .

a) 3 and 5 .....

.....

.....

b) 2 and 6 .....

.....

.....

c) 10 and 15 .....

.....

.....

d) 8 and 12 .....

.....

.....

B Making Lists

Example : List all the factors of 20.
Working : Find pairs of numbers that multiply to make 20; each pair is a pair of factors.
20 = 1 x 20, 20 = 2 x 10, 20 = 4 x 5
Answer : 1, 2, 4, 5, 10, 20.

1a) List all the factors of : i) 30 ii) 36 iii) 45

i) .....

.....

the factors of 30 are : .....

ii) .....

.....

the factors of 36 are : .....

iii) .....

.....

the factors of 45 are : .....

b) i) List the common factors of 30 and 45.

.....

ii) What is the highest common factor of 30 and 45?

.....

c) i) List the common factors of 36 and 45.

.....

ii) What is the highest common factor of 36 and 45?

.....

2 Find the highest common factor (HCF) of . . .

a) 40 and 50 .....

.....

.....

.....

b) 24 and 48 .....

.....

.....

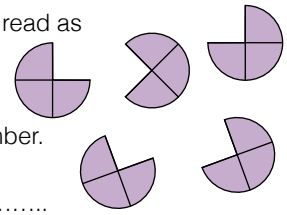
.....

17 Multiplying and Dividing Fractions

A Think of Pies

The multiplication sign x can be explained using the word of.
For example : 3 x 5 means 3 lots of 5,
also, $\frac{1}{2} \times \frac{2}{3}$ means $\frac{1}{2}$ of $\frac{2}{3}$.

1 The multiplication $5 \times \frac{3}{4}$ can be read as five lots of three quarters.



Write the answer as a mixed number.

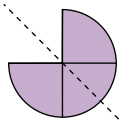
$5 \times \frac{3}{4} =$ .....

2 Calculate.

a) $7 \times \frac{2}{3}$ .....

b) $3 \times 2\frac{3}{5}$ .....

3 The multiplication $\frac{1}{2} \times \frac{3}{4}$ can be read as half of three quarters.

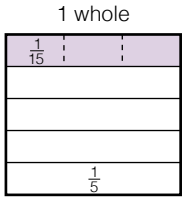


$\frac{1}{2} \times \frac{3}{4} =$ .....

4 Complete : Since $\frac{1}{3} \times \frac{1}{5} = \frac{1}{15}$

then $\frac{2}{3} \times \frac{1}{5} =$ .....

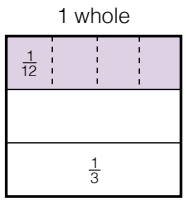
and $\frac{2}{3} \times \frac{4}{5} =$ .....



5 Complete : Since $\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$

then $\frac{3}{4} \times \frac{1}{3} =$ .....

and $\frac{3}{4} \times \frac{2}{3} =$ .....



6 Calculate, write the answer in simplest form.

a) $\frac{1}{4} \times \frac{2}{3}$ .....

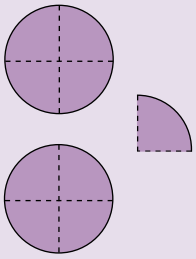
b) $\frac{2}{5} \times \frac{3}{4}$ .....

c) $\frac{4}{9} \times \frac{5}{8}$ .....

d) $\frac{5}{6} \times \frac{9}{10}$ .....

B Draw a Diagram

Example : Calculate $2\frac{1}{4} \div \frac{1}{2}$



Working :
The division can be interpreted as :
'How many portions of $\frac{1}{2}$ pie can be cut from $2\frac{1}{4}$ pies?'
2 whole pies make four portions of $\frac{1}{2}$,
and $\frac{1}{4}$ pie makes up just half of a portion.
Therefore, $2\frac{1}{4} \div \frac{1}{2} = 4\frac{1}{2}$.

Note : The division can also be described as 'How many sets of 2 quarters can be made from 9 quarters?' The answer is $4\frac{1}{2}$.

1a) How many portions of a half pie can be cut from 3 pies?

$3 \div \frac{1}{2} =$ .....

b) How many portions of $\frac{1}{6}$ pie can be cut from $2\frac{1}{3}$ pies?

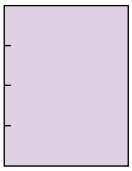
$2\frac{1}{3} \div \frac{1}{6} =$ .....

c) How many portions of $\frac{1}{2}$ pie can be cut from $\frac{3}{4}$ pie?

$\frac{3}{4} \div \frac{1}{2} =$ .....

2 A travelling salesman knows that a round trip to Taupo will take $\frac{3}{4}$ of a tank of petrol.

a) He starts with a full tank. After one trip there is $\frac{1}{4}$ tank left. What fraction of the next round trip can he go with $\frac{1}{4}$ tank?

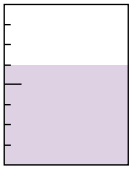


.....

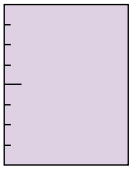
Conclusion :

$1 \div \frac{3}{4} = \frac{4}{4} \div \frac{3}{4} =$ .....

b) How many round trips to Taupo can the salesman make with $1\frac{5}{8}$ tanks of petrol.



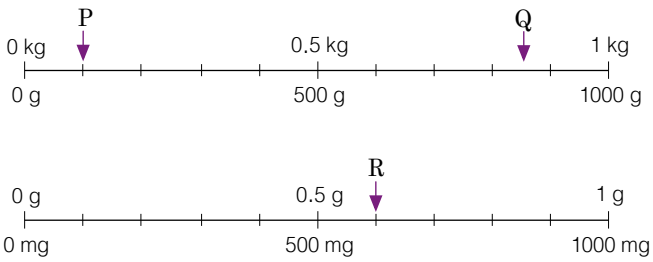
$1\frac{5}{8} \div \frac{3}{4} = \frac{13}{8} \div \frac{6}{8} =$ .....



A Units

Mass is the correct word to describe the bulk of an object, often the word **weight** is used. Mass is measured in kilograms.
For small objects we use grams, in chemistry we use milligrams.

1 kg = 1000 g 1 g = 1000 mg



1 These two numberlines show the relationship between g and mg and between kg and g.
Read off the measurements at P, Q and R.

a) P is at ..... kg or at ..... g.

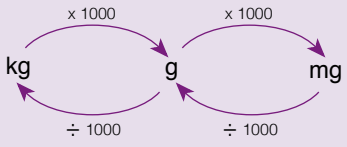
b) Q is at ..... kg or at ..... g.

c) R is at ..... g or at ..... mg.

2 Place pointers A, B and C on the numberlines above.
Carefully place . . .

a) A at 0.7 kg b) B at 350 mg c) C at 250 g

Diagram for converting units of mass.



3 Write each label in a different unit.

a) 0.75 kg ..... g

b) 350 g ..... kg

c) 0.6 kg ..... g

d) 900 mg ..... g

e) 0.1 g ..... mg

f) 60 mg ..... g

4 Complete.

a) 50 mg = ... g b) 6000 g = ... kg

c) 0.04 kg = ... g d) 1700 mg = ... g

e) 70 g = ... kg f) 70 g = ... mg

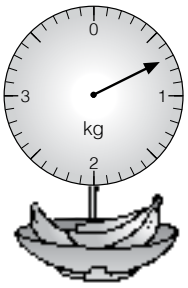
g) 300 mg = ... g h) 2.8 kg = ... g

B In the Supermarket

1 Below are objects of different masses found in a supermarket.
Match each object with its most likely mass.

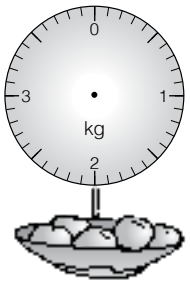
object	mass
box of cereal	20 mg
shop assistant	750 g
delivery truck	65 kg
vitamin tablet	3 kg
groceries in a bag	2000 kg

2a)



Complete : The bananas weigh .....kg

b)



The apples weigh 2600 g.

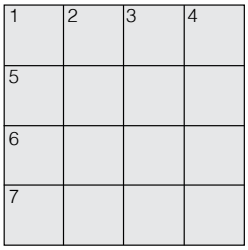
Draw the pointer.

3 Tama cuts a 60 g chunk of cheese from a block of 0.75 kg.

How many grams are left? .....

4 Complete this number puzzle.
A decimal point takes a full square.

The unit of the answer is indicated in the brackets



Clues Across

1. The combined weight of 5 kg and 27 g (in grams).
5. The weight of 1 bar of chocolate if 100 bars weigh 3 kg (in kg).
6. The remainder if we take away 100 mg from 15 g (in grams).
7. The total weight of a box with 8 calculators (in grams). The box weighs 40 g, each calculator weighs 0.2 kg.

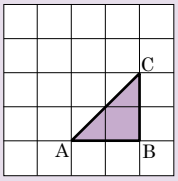
Clues Down

1. The weight when 311 mg is added to 4.7 g (in mg).
2. 460 g converted to kg.
3. The total weight of sixty-eight revision books. One revision book weighs 300 g (in kg).
4. The total weight of the vegetables if you buy 5 kg of potatoes, 1.5 kg onions, 800 g beans and a capsicum of 90 g (in grams).

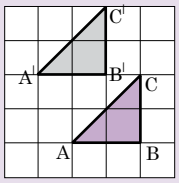
A Shifting Shapes

In a **translation** each point of the object moves the same distance in the same direction.

Example : Give triangle ABC the translation one square to the left and two squares up. Label the image with $A^{|}$, $B^{|}$ and $C^{|}$.



Working : Move point A one square left and two up. Label the image $A^{|}$. Move point B one square left and two up. Label the image $B^{|}$.
Move C and draw the triangle.



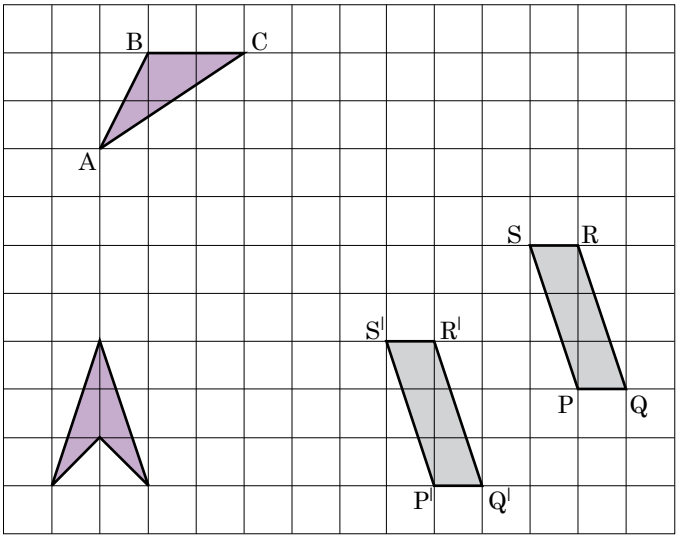
1a) Give triangle ABC the translation 6 squares to the right and 1 square down. Label the image with $A^{|}$, $B^{|}$ and $C^{|}$.

b) Parallelogram $PQRS$ was given a translation, its image is $P^{|}Q^{|}R^{|}S^{|}$. Describe the translation.

.....

.....

c) Give the arrowhead the translation 2 squares up. Colour the image red.



B Penguin Colony

In Exercise **A** you can see that for a translation object and image look exactly the same. Therefore you only need to find the position of a starting point. After that you copy the picture!

1a) Give the **purple** penguin the translation 5 left, 3 up. Colour the image **blue**.

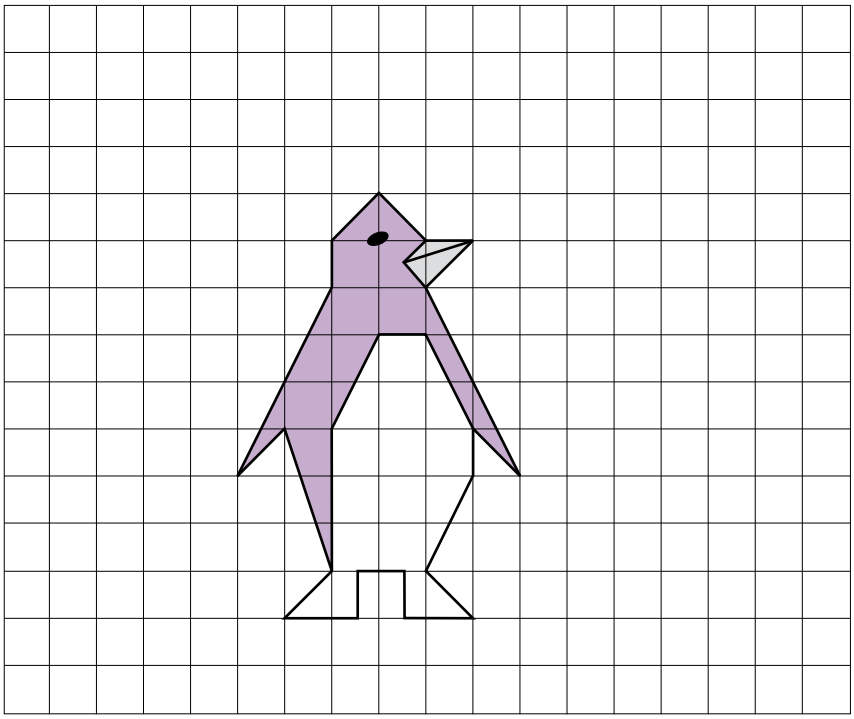
b) Give the **blue** penguin the translation 11 right, 4 down, colour the image **black**.

c) Describe the translation which moves the **purple** penguin onto the **black** penguin.

.....

.....

.....



59 Calculating Statistics 2

A Mode and Range

The **mode** of a set of scores is the score that occurs most often.
The **range** is the difference between the highest score and the lowest score.

Example : Ages of students in the school orchestra.

16	15	14	13	15	16	14	15	14
14	15	15	14	16	15	16	15	16

a) Record the scores in a tally table.
b) Find the mode.
c) Calculate the range.

Working : a)

age	tally
13	|
14	𝍸
15	𝍸 ||
16	𝍸

b) In the list of scores 15 occurs most often;
mode = 15 years
c) range = highest − lowest
= 16 − 13
= 3 years

1 Everyday Jacqui records the number of subjects she had for homework.

Number of Subjects						
2	3	3	5	2	3	4
1	3	0	4	2	5	1
2	3	2	4	5	0	2
4	3	3				

a) What is the highest score?

……

What is the lowest? ……

b) Make a tally table to work out the mode.

score	tally

mode = ……

c) Calculate the range.

range = ……

2a) Record these belt lengths in a tally table.

Work out the mode.

Belt Lengths (cm)					
79	78	76	80	78	78
80	80	79	81	81	80
79	80	77	76	80	78

……

b) Calculate the range.

length	tally

……

……

c) Add all 18 lengths and calculate the mean.

……

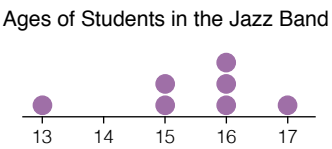
……

……

B Join the Band

Mean, median and mode are called **measures of centre**, the range is called a **measure of spread**.
With one representative measure of centre and the range, we can get a fair idea of what the data looks like.

1 Examine this dot plot.



a) What are the ages of the 7 students in the jazz band?

……

b) Work out all measures of centre.

mean = ……

median = ……

mode = ……

c) What age would you choose to represent the centre of the data? Say why.

……

……

……

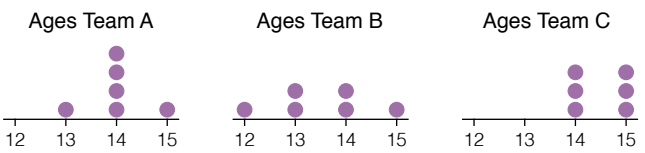
d) Calculate the range.

range = ……

2a) There are 5 students in the rock band. Their modal age is 15, with a range of 2. Draw a dot plot of the possible ages of students in this band.

b) There are 6 students in the brass band. Their median age is 16, the range is 3. Draw a dot plot of possible ages.

3 Here are the ages of 3 volleyball teams.



Which team has . . .

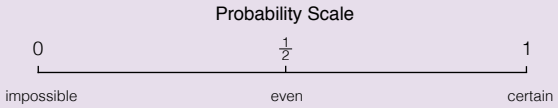
a) the largest range in ages? ……

b) the highest mean age? ……

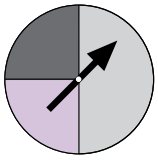
Probability Notation 62

A Spinners

If an event is *certain to happen*, its probability is 100% or 1.
If it has the same chance of *happening* as *not happening*, then its probability is 50% or $\frac{1}{2}$.
If an event is *impossible*, its probability is 0% or 0.



Probabilities are given as a number between zero and one, often as a fraction or a percentage.

1 

The arrow will be spun and the colour it points to will be recorded.

a) List the 3 possible colours.

……

……

b) Are the colours equally likely to turn up? ……

c) *"The arrow has the same chance of pointing to grey as not pointing to grey."* Do you agree with that statement? ……

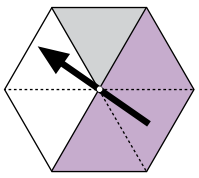
d) Write as a fraction the probability that the arrow points to grey.

……

e) Write as a fraction the probability that the arrow points to black.

……

f) What is the probability that the arrow points to white? ……

2 

The arrow will be spun and the colour it lands on will be recorded.

a) Which colour has an even chance of happening or not happening?

……

Write these probabilities as fractions :

b) It lands on grey. ……

c) It lands on purple. ……

d) It lands on white. ……

e) It lands on black ……

f) It does not land on purple. ……

g) It does not land on white. ……

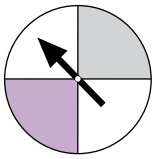
B P is for Probability

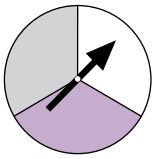
When writing about probabilities we often use the P-notation

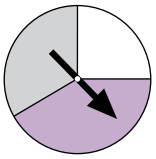
Example :

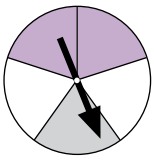
A lollie is taken at random out of this bag containing 3 minties and 1 toffee.
Calculate P(mintie) - this means : Calculate the probability it is a mintie.
Answer : P(mintie) = $\frac{3}{4}$

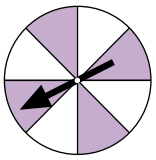
1 The arrows on these spinners are spun.
Work out the probabilities :

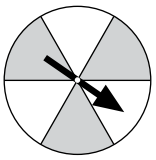
a) 
P(white) = ……..

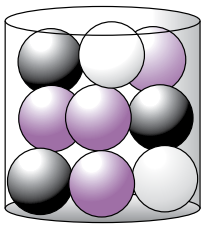
b) 
P(white) = ……..

c) 
P(white) = ……..

d) 
P(purple) = ……..

e) 
P(purple) = ……..

f) 
P(purple) = ……..

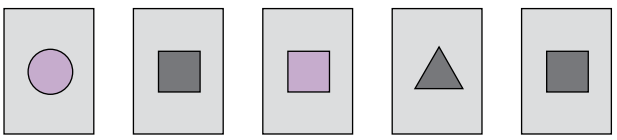
2 

One marble is taken at random from this jar. Work out the probabilities.

a) P(purple) = ……..

b) P(black) = ……..

c) P(white) = ……..

3 

These five cards will be shuffled and placed face down on the table. Then one card is taken at random and we look at the symbol that is on it.

Find these probabilities.

a) P(square) = ……..

b) P(triangle) = ……..

c) P(purple shape) = ……..

d) P(not a circle) = ……..

65 Mathematical and Statistical Responses

A Explaining the Responses to Situations

In order to achieve the Numeracy Co-requisite, students must be able to demonstrate that they are able to **explain the reasonableness** of their answer.

Answer the question clearly, usually **Yes/No** or **Agree/Disagree**.
Include numerical working.

It can be the case that EITHER Yes or No answer may be accepted provided that the reasoning is valid.

Example :

A new tourist attraction is opening in the Bay of Plenty and the marketing team are working out entry prices. Is the "Family of 4 pass" the best deal for a visiting family of four people?

Adult (15+ years)	$30
Child (6-14 years)	$16
5 and Under (0-5 years)	Free
Family of 4 Pass	$89
Family of 5 Pass	$95

Answers :

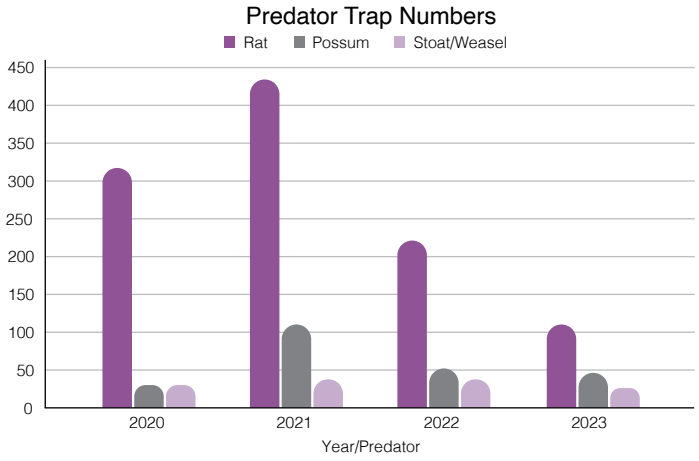
Yes. A family with two adults and two children would cost 2 x $30 + 2 x $16 = $92 if they paid separately.
So $89 for a pass is a saving of $3.

Or

No. A family may be one adult and three children, in which case it would cost 1 x $30 + 3 x $16 = $78 if they paid separately.
A pass would cost $11 more.

Or

No. A family may be two adults and two children including one child aged 5 and Under which would be free, in which case it would cost 2 x $30 + 1 x $16 = $76 if they paid separately. A pass would cost $13 more.



1a) This graph shows predator numbers caught in traps at a eco-sanctuary in Wellington over a number of years.
It is claimed that in 2021, there are four times as many rats caught as possums at this sanctuary.

Do you agree with this claim? .....

.....

.....

b) Hemi, who works at the eco-sanctuary, claims that in 2023, the number of predators in the eco-sanctuary was a third of what it was in 2020.

Do you agree with Hemi? .....

.....

.....

67 Answers

Pages 3 - 15

Page 3 - Integers 1

A1 a) 5 b) −5 c) −1
A2 a) 4 b) 0 c) 2
A3 a) −8, −5, 0, 6 b) −500, −100, 200
A4 a) −1°C b) 7°C

B1 a) 9 b) 1 c) −5 d) 6
e) 3 f) −8 g) 6 h) −5
i) 4 j) 0
B2 a) 4 b) −6 c) −8 d) −4
e) 4 f) 11 g) 2 h) 0
i) −10 j) −1
B3 a) 4 b) −9 c) −3 d) 2
e) 10 f) 8 g) −6 h) 6
i) −3 j) −7

Page 4 - Integers 2

A1 a) −30 b) 14 c) −20 d) 24
e) −36 f) −90 g) 48 h) −25
A2 a) −2 b) −4 c) 6 d) −8
e) −3 f) 7 g) 6 h) −6

B1 a) −8 b) 2 c) 1 d) −35
e) −8
B2 a) −4 b) 1 c) −9 d) 22

C1 a) 27 b) −30 c) −28 d) −24
e) 20 f) 9 g) 2 h) −3
i) 9 j) −2

Page 5 - Powers and Square Roots

A1 a) 1 b) 16 c) 64 d) 100
e) 25 f) 144
A2 a) 3 x 3 x 3 x 3 = 81 b) 4 x 4 x 4 = 64
c) 1 x 1 x 1 x 1 x 1 x 1 = 1 d) 10 x 10 x 10 = 1000
A3 a) 2^4 b) 3^3
A4 a) 2048 b) 512
A5 a) 16 b) −8 c) 81 d) −1
A6 a) (3 x 3) x (3 x 3) = 9 x 9
b) (2 x 2 x 2) x (2 x 2 x 2) = 8 x 8

B1 a) 5 b) 9 c) 1 d) 7
e) 10 f) 12
B2 a) 3.2 b) 4.5 c) 6.4
B3 a) 64 b) 196
B4 a) 18 x 18 = 324 b) 16

Page 6 - Multiples and Factors

A1 a) 4, 8, 12, 16, 20, 24, 28, 32, 36, 40
b) 6, 12, 18, 24, 30, 36, 42, 48, 54, 60
c) 9, 18, 27, 36, 45, 54, 63, 72, 81, 90
A2 a) 12, 24, 36 They are multiples of 12.
b) multilpes of 18 c) multiples of 36
A3 a) 15 b) 6 c) 30 d) 24

B1 a) i) 1, 2, 3, 5, 6, 10, 15, 30
ii) 1, 2, 3, 4, 6, 9, 12, 18, 36
iii) 1, 3, 5, 9, 15, 45
b) i) 1, 3, 5, 15 ii) 15
c) i) 1, 3, 9 ii) 9
B2 a) 10 b) 24

Page 7 - Divisibility and Primes

A1 a) 3, 5 b) 2, 4
c) 2, 3, 4, 5, 6, 10 d) 2, 3, 6

B1 11, 23, 43
B2 61, 67, 71, 73, 79
B3 97
B4 It has only one factor. Primes must have two factors.
B5 No, because 111 is divisible by 3.

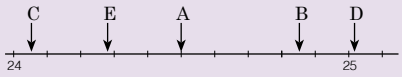
C1 a) i) 12 ii) 60
b) 61 (or 121 or 181, etc)
C2 a) 84 or 96 or 108 (multiple of 12 over 80)
b) 86 students or 98 students

Page 8 - Problems and Puzzles

A1 a) Calculation : 500 − 3 x 170 + 40 Ans : $30
b) Calculation : 9(4 x 10 − 25) Ans : $135
c) Calculation : 11 − 4 x 3 − (10 − 4) x 2 Ans : −13°C
B1 a) 27 cubes b) It is a 5 x 5 x 5 cube.
c) A 12 x 12 x 12 cube
B2 1 x 1 x 36; 1 x 2 x 18; 1 x 3 x 12; 1 x 4 x 9;
1 x 6 x 6; 2 x 2 x 9; 2 x 3 x 6; 3 x 3 x 4;
8 different looking cuboids.
B3 A is correct. $2 \times 2 \times 2 \times 2 \times 2 = 2^5$
B4 2 x 2 x 2 x 5 x 5 x 5 = 2 x 5 x 2 x 5 x 2 x 5 =
10 x 10 x 10 = 1000

Page 9 - Decimal Place Values

A1 a) tenths b) ten-thousandths
A2 a) 71.5 b) 0.239 c) 600
A3 a) seven, two tenths and six hundredths
seven and twenty-six hundredths
b) one, nine hundredths and five thousandths
one and ninety-five thousandths
A4 a) $2810 b) $60 899 c) $735.75 d) $8390
e) $5050 f) $9900 g) $13.05 h) $20.99
i) $299.95
A5 a) = b) < c) > d) =
A6 a) 6.75 b) 7.05 c) 0.185 d) 2.195
A7



Page 10 - Mental Multiplication

A1 $\frac{1}{100}$ of 64 which is 64 ÷ 100 answer 0.64
A2 a) 0.03 b) 0.048 c) 0.095
A3 a) 9 x 0.1 x 7 = 63 x 0.1 = 6.3
b) 8 x 0.1 x 6 x 0.1 = 48 x 0.01 = 0.48
c) 4 x 10 x 4 x 0.01 = 16 x 0.1 = 1.6
d) 2 x 0.1 x 7 x 100 = 14 x 10 = 140
A4 0.12, 3.0, 0.042, 0.72, 360.0, 2400.0
16.0, 400, 5.60, 96.0, 48 000, 320 000
0.006, 0.15, 0.0021, 0.036, 18.00, 120.00

B1 a) 0.5 x 0.9 = 0.45
b) 0.6 x 10 − 0.6 x 0.1 = 6 − 0.06 = 5.94
c) 1 x 3.8 − 0.1 x 3.8 = 3.8 − 0.38 = 3.42
d) 0.7 x 8 = 5.6
e) 1.2 x 500 = 0.6 x 1000 = 600

Page 11 - Rounding & Estimating

A1 a) 4.3 b) 6.0 c) 51.6 d) 0.9
e) 0.1 f) 2.4
A2 a) 97.04 b) 1.86 c) 0.36 d) 3.10
e) 90.00 f) 63.06
A3 a) 14.8 km b) 3.41 L c) 810 kg

B1 a) 49.29 (2dp) b) 38.6 (1 dp)
B2 a) 12 km (nearest km) b) 0.6 m (1 dp)
c) 6.45 dollars (2 dp) d) 5 oranges (near whole)
C1 b) 3 + 2 x 6.5 = 3 + 13 = 16; answer (1 dp) 14.8
c) $\frac{13+25}{6} = \frac{38}{6} \approx \frac{36}{6} = 6$; answer (1 dp) 6.2
d) 58 − 44 ÷ 11 = 58 − 4 = 54; answer (1 dp) 54.2

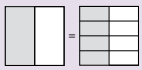
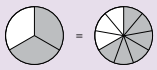
Page 12 - Decimal Problems

A1 a) 4.50 + 4.50 + 4.50 + 2.25 = $15.75
b) 5 cost half or $26.50 = $13.25
A2 a) i) $84 ii) $0.84 b) i) $26.40 ii) $2.64
c) 50 clips $21; 100 clips $42; one clip $0.42
B2 3.5 x 8 .60 = 7 x 4.30 = 28 + 2.10
answer : $30.10
B2 a) 0.3 kg, 0.25 kg, 0.205 kg
b) 0.300 − 0.205 = 0.095 kg
B3 a) B
b) $\frac{1}{4}$

Page 12 - Decimal Problems - continued

B4 a) Estimated cost list could be :
$10.50, $18.00, $4.50,
$2.50, $14.00
b) $49.50 c) $50.37

Page 13 - Fractions

A1 a)  b) 
A2 a) 4 b) 8 c) 9 d) 100
e) 30 f) 40 g) 7 h) 4
i) 8
A3 a) 2  b) 3 
A4 a) $\frac{3}{5}$ b) $\frac{4}{5}$ c) $\frac{3}{10}$ d) $\frac{3}{4}$

B1 improper fraction line : $\frac{5}{3}$, $\frac{9}{4}$, $\frac{9}{2}$.
mixed number line : $2\frac{1}{2}$, $3\frac{3}{7}$.
B2 a) $\frac{4}{8} = \frac{1}{2}$ of a pie b) $\frac{4}{6} = \frac{2}{3}$ of a pie
c) $\frac{4}{3} = 1\frac{1}{3}$ of a pie
B3 a) $2\frac{2}{5}$ b) $7\frac{1}{2}$
c) $8\frac{3}{4}$
B4 a girl's share = $\frac{8}{5} = 1\frac{3}{5}$ pizza
a boy's share = $\frac{9}{6} = 1\frac{1}{2}$ pizza
Girl's share is larger.

Page 14 - Ratio

A1 a) 10 : 3 b) 40 swimmers
A2 9 + 15 = 24 animals
A3 a) 15 b) 35 c) 81 d) 80
A4 a) 4 : 1 b) 3 : 7 c) 4 : 9 d) 3 : 5
e) 8 : 5

B1 a) 12 : 18 = 2 : 3 b) $\frac{18}{30}$ or $\frac{3}{5}$
B2 a) 1 : 2 b) $\frac{1}{3}$
B3 a) 40 : 12 = 10 : 3 b) $\frac{12}{52} = \frac{3}{13}$
B4 a) 8 : 3 : 1 b) $\frac{3}{12} = \frac{1}{4}$
B5 a) $\frac{3}{6}$ or $\frac{1}{2}$ b) 1 : 1

Page 15 - Using Fractions and Ratios

A1 $\frac{4}{9}$ is less than half, $\frac{3}{5}$ is more than half,
so $\frac{4}{9}$ is less than $\frac{3}{5}$.
A2 milk choc share = $\frac{2}{12} = \frac{1}{6}$ bar
white choc share = $\frac{3}{15} = \frac{1}{5}$ bar
white choc is bigger
A3 a) $\frac{15}{24}$ $\frac{16}{24}$ therefore $\frac{2}{3}$ is larger
b) $\frac{27}{63}$ $\frac{28}{63}$ therefore $\frac{4}{9}$ is larger
A4 a) $\frac{3}{8}$
b) $\frac{4}{10} = \frac{2}{5}$ apricot
since $\frac{16}{40} > \frac{15}{40}$ the apricot share is larger.

B1 10 : 15 = 2 : 3 Amy needs 6 tomatoes.
B2 Scoops : People = 12 : 15 = 4 : 5
For 10 people 8 scoops of rice are needed.
B3 a) words : lines = 500 : 40 = 25 : 2
25 x 16 = 400 words
b) Since 600 = 24 x 25, then Oliver needs
24 x 2 = 48 lines