Revision

A Key Skills

1. Write as a decimal.
a) $\frac{5}{7}$ = ...
b) 6.1 × 10⁻² = ...
c) 3.5% = ...
d) 5 hundredths = ...

2. Simplify.
a) $\frac{120}{540}$ = ...
b) 225 : 45 = ...

3. Divide $93.28 in the ratio 11 : 5
....

4. Calculate.
a) $\frac{5}{8}$ of 1.2L   = ...
b) 160% of $25000 = ...

5a) What fraction is 360g of 4.2kg? ....
b) What percentage is 22 students of 1500? ....

6. Give your answer in standard form.
$$\frac{(2.5 \times 10^3)^2}{1.25 \times 10^{-4}} =$$ ....

7. Increase 375mg by $\frac{2}{15}$
....

B Applications

1. A grower has sown seeds in 4 plots.

	A	B	C	D
Seeds sown	500	660	300	700
Seeds germinated	428	570	274	.628

a) Which plot has the highest germination rate (percentage of sown seeds to germinate)?
....

b) What is the average germination rate over all four plots?
....

2. Five hundred grams of Edam cheese cost $4.35.
a) Find the cost of 950g of Edam cheese.
....

3a) Amanda paid $385 for a bike which she sold a week later for $340. What was her percentage loss?
....

b) $3.20 GST was added to the price of a hammer. What is the price of the hammer including the 12.5% GST?
..............

C Problems
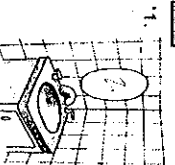
1.
Robyn is renovating her bathroom. She has chosen tiles which come in boxes of 38, at $40 per box. The area to be tiled is 9m² and 25 tiles cover 1m². Her DIY book advises buying 8% extra tiles to cover breakages and cutting halves. How much do the tiles cost?

2. Two years ago fresh Snapper cost $15 per kg, the price goes up by 10% each year.
a) How much does Snapper cost now per kg? ....
b) How many grams of Snapper can now be bought with $15? ....

3. The body has about 4.8L of blood with about 2.5 × 10¹³ red blood cells. Blood donors give about 430mL of blood at a time. How many red blood cells do blood donors give each time they donate? Round sensibly.

Revision

A Paving Pattern

1.
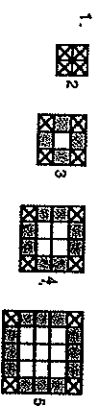
a) Study the pattern and fill in the table.

	1	2	3	4	5
⊠ c	4				
▦ g	0				
☐ w	0				

b) If the square has side n, find a formula for . . .
(i) number of crossed tiles : c = ...
(ii) number of grey tiles : g = ...
(iii) number of white tiles : w = ...

c) Erica made a square of this paving pattern. She used 225 white tiles. How many grey tiles did she use?
....

2a) $t_n = 2n^2 - n$. Write down the first five terms.
....

b) Write a rule for this sequence : 100, 94, 88, 82, . . .
$t_n =$ ....

B Lines & Curves

1. The line in this graph has equation 2x + 3y = 8.
a) Find the x-intercept and the y-intercept.
x-int. = (.............., ...)
y-int. = (.............., ...)

b) In the same graph draw the line y = $\frac{x + 3}{2}$

c) Solve simultaneously 2x + 3y = 8, 2y = x + 3
....
....
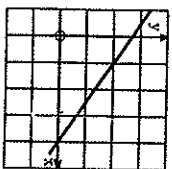
2. A rectangle has an area of 6cm².

6cm²

a) Fill in the table with possible base lengths and heights.

base		
height		

b) Plot base against height. What is the name of the curve? ....

C Dangerous Curves Ahead

Name each curve and work out an equation for each.

Graph	Name	Equation
A		
B		
C		
D		
E		
F		