

Name	
Form	
Teacher	

Maths

Homework Booklet

Year 9 Summer 2

Set 4,5

Topic	Score achieved	Sparx %
1: Percentages to fractions	/36	%
2: Revision	n/a	%
3:Simplifying ratios	/23	%
4: Time calculations	/21	%
5: Time calculations	/18	%
6: Probability	/13	%
7: Probability	/4	%



Week 1

Question 1: Write each of the following percentages as fractions.
If possible, simplify each answer.

- | | | | |
|---------|---------|---------|---------|
| (a) 3% | (b) 14% | (c) 66% | (d) 10% |
| (e) 17% | (f) 30% | (g) 50% | (h) 25% |
| (i) 15% | (j) 29% | (k) 16% | (l) 44% |
| (m) 99% | (n) 85% | (o) 52% | (p) 80% |
| (q) 60% | (r) 20% | (s) 5% | (t) 72% |
| (u) 98% | (v) 2% | (w) 88% | (x) 15% |

Question 2: Write each of the following percentages as fractions.
If possible, simplify each answer.

- | | | | |
|----------|----------|----------|----------|
| (a) 111% | (b) 130% | (c) 150% | (d) 110% |
| (e) 125% | (f) 165% | (g) 160% | (h) 144% |
| (i) 240% | (j) 390% | (k) 358% | (l) 820% |

Sparx – Homework Answers



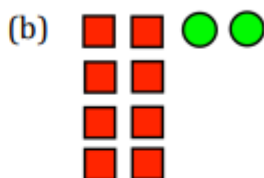
Week 2

Sparx – Homework Answers



Week 3

Question 1: For each of the following, write down the ratio of red squares to green circles. Give your ratios in their simplest forms.



Question 2: Simplify the following ratios

(a) $4 : 6$

(b) $14 : 8$

(c) $15 : 10$

(d) $6 : 15$

(e) $30 : 10$

(f) $12 : 16$

(g) $6 : 18$

(h) $45 : 10$

(i) $12 : 28$

(j) $24 : 36$

(k) $25 : 60$

(l) $27 : 63$

(m) $48 : 60$

(n) $120 : 260$

(o) $8000 : 75$

(p) $33 : 121$

(q) $2.5 : 4.5$

(r) $1.5 : 20$

(s) $6 : 1.2$

(t) $2.25 : 4.95$

Sparx – Homework Answers



Week 4

Question 1: Convert the times from hours/minutes into hours, without a calculator.

e.g. 1 45 minutes = 0.75 hours

e.g. 2 1 hour 30 minutes = 1.5 hours

- | | | |
|------------------------|------------------------|------------------------|
| (a) 15 minutes | (b) 30 minutes | (c) 45 minutes |
| (d) 20 minutes | (e) 40 minutes | (f) 2 hours 30 minutes |
| (g) 1 hour 15 minutes | (h) 3 hours 45 minutes | (i) 2 hours 40 minutes |
| (j) 5 hours 30 minutes | (k) 7 hours 20 minutes | (l) 4 hours 15 minutes |

Question 2: Convert the times from hours/minutes into hours.

You may use a calculator if needed.

- | | | |
|------------------------|------------------------|------------------------|
| (a) 18 minutes | (b) 54 minutes | (c) 1 hour 3 minutes |
| (d) 1 hour 36 minutes | (e) 2 hours 48 minutes | (f) 2 hours 33 minutes |
| (g) 8 hours 51 minutes | (h) 3 hours 21 minutes | (i) 27 minutes |

Sparx – Homework Answers



Week 5

Question 3: Convert the times from hours/minutes into hours.
Give each answer to 3 decimal places.

- | | | |
|------------------------|------------------------|------------------------|
| (a) 44 minutes | (b) 8 minutes | (c) 1 hour 50 minutes |
| (d) 2 hours 10 minutes | (e) 4 hours 26 minutes | (f) 3 hours 29 minutes |
| (g) 5 hours 2 minutes | (h) 2 hours 55 minutes | (i) 59 minutes |

Question 4: Convert the times from hours into hours/minutes, without a calculator.

- | | | |
|---------------------|---------------------|----------------------|
| (a) 0.75 hours | (b) 1.25 hours | (c) 5.5 hours |
| (d) 1.3333... hours | (e) 2.6666... hours | (f) 10.75 hours |
| (g) 3.25 hours | (h) 0.5 hours | (i) 22.3333... hours |

Sparx – Homework Answers



Week 6

Question 1: Two fair six sided dice are rolled.

The numbers on the two dice are **added** together to give a score.

The table shows all possible scores.



(a) Which score is the most likely?

(b) Which scores are the least likely?

(c) Write down the probability of scoring a

(i) 3 (ii) 5 (iii) 6 (iv) 7

(d) Write down the probability of scoring a number

(i) over 10 (ii) under 7 (iii) 4 or less (iv) 6 or more

(e) Write down the probability of scoring

(i) an odd number (ii) a square number (iii) a prime number

		Dice 1					
Dice 2	+	1	2	3	4	5	6
	1	2	3	4	5	6	7
	2	3	4	5	6	7	8
	3	4	5	6	7	8	9
	4	5	6	7	8	9	10
	5	6	7	8	9	10	11
6	6	7	8	9	10	11	12

Sparx – Homework Answers



Week7

- Question 1: An ordinary coin is thrown 50 times.
Barry says "I am going to get heads 25 times and tails 25 times."
Explain why he could be wrong.
- Question 2: A coin is thrown 30 times.
The coin lands on tails 20 times.
What is the relative frequency of the coin landing on tails?
- Question 3: A dice is rolled 50 times.
It lands on six 37 times.
(a) Write down the relative frequency of the dice landing on a six.

Robyn says "the dice is biased towards landing on a six."
(b) Do you think the dice is biased? Explain your answer.

Sparx – Homework Answers