C4

Integers, fractions, decimals and percentages

CHAPTER ASSIGNMENT · 75 MARKS

Name _____ Class _____ No. _____ Date _____

> Answer every question in the space given, without a calculator. Give fractions in their simplest form. A decimal written with … repeats for ever: 0.4545… means 0.454545…

Practice questions from *Cambridge IGCSE Mathematics Core and Extended* (4th edition), Chapter 4 (Integers, fractions, decimals and percentages), for classroom use. Recurring decimals are written with … instead of the book's dots. The Check yourself and Chapter quiz questions are Guru Jazzy's own.

Exercise 4.1 · Fractions of amounts

4.1 Evaluate.

3/4 of 20	4/5 of 20	4/9 of 45	5/8 of 64	3/11 of 66
9/10 of 80	5/7 of 42	8/9 of 54	7/8 of 240	4/5 of 65

Exercise 4.2 · Mixed numbers and improper fractions

4.2.1 Change each mixed number into an improper fraction.

4 2/3	3 3/5	5 7/8	2 5/6	8 1/2	9 5/7
6 4/9	4 1/4	5 4/11	7 6/7	4 3/10	11 3/13

4.2.2 Change each improper fraction into a mixed number.

29/4	33/5	41/6	53/8	49/9
17/12	66/7	33/10	19/2	73/12

Exercises 4.3 and 4.4 · Decimals and percentages

4.3.1 Write each as a decimal.

4 5/10	6 3/10	17 8/10	3 7/100	9 27/100	11 36/100	4 6/1000	5 27/1000	4 356/1000	9 204/1000

4.3.2 Evaluate without a calculator.

2.7 + 0.35 + 16.09	1.44 + 0.072 + 82.3	23.8 − 17.2	16.9 − 5.74	121.3 − 85.49
6.03 + 0.5 − 1.21	72.5 − 9.08 + 3.72	100 − 32.74 − 61.2	16.0 − 9.24 − 5.36	1.1 − 0.92 − 0.005

4.4.1 Write each as a fraction with denominator 100, then as a percentage.

29/50	17/25	11/20	3/10	23/25	19/50	3/4	2/5

4.4.2 Copy and complete the table of equivalents.

Form	a	b	c	d	e	f	g	h	i	j
Fraction	1/10			4/10				4/5		1/4
Decimal		0.2			0.5		0.7		0.9	
Percentage			30%			60%				75%

Exercise 4.5 · The four rules

4.5.1 Evaluate: (a) 3 + 5 × 2 − 4 · (b) 12 ÷ 8 + 6 ÷ 4 **[2]**

4.5.2 Put brackets in to make these correct: (a) 6 × 4 + 6 ÷ 3 = 20 · (b) 9 − 3 × 7 + 2 = 54 **[2]**

4.5.3 Without a calculator, work out (a) 785 × 38 and (b) 164 × 253. **[4]**

4.5.4 Work out the remainders: (a) 72 ÷ 7 · (b) 430 ÷ 9 **[2]**

4.5.5 (a) A length of rail track is 9 m. How many complete lengths are needed to lay 1 km of track? (b) How many 35-cent stamps can be bought for 10 dollars? **[4]**

4.5.6 Work out these long divisions to 1 d.p.: (a) 7892 ÷ 7 · (b) 7892 ÷ 15 [4]

Exercises 4.6 and 4.7 · Simplifying, adding and subtracting fractions

4.6 Write each fraction in its lowest terms.

5/10	7/21	8/12	16/36	75/100	81/90

4.7.1 Evaluate. Give each answer in its simplest form.

3/5 + 4/5	3/11 + 7/11	2/3 + 1/4	3/5 + 4/9	8/13 + 2/5	1/2 + 2/3 + 3/4
1/3 + 1/2 + 1/4	1/5 + 1/3 + 1/4	3/7 − 2/7	4/5 − 7/10	8/9 − 1/3	7/12 − 1/2
3/4 + 1/5 − 2/3	4/5 − 3/10 + 7/20	9/10 − 1/5 − 1/4	5/8 − 2/5	3/4 − 2/5 + 7/10	8/9 − 1/3 − 1/2

4.7.5 Evaluate, working with mixed numbers.

2 1/2 + 3 1/4	3 3/5 + 1 7/10	6 1/2 − 3 2/5	8 5/8 − 2 1/3	5 7/8 − 4 3/4	3 1/4 − 2 5/9

Exercise 4.8 · Multiplying and dividing fractions

4.8.1 Write the reciprocal of 1/8, 7/12, 3/5, 1 1/2, 3 3/4 and 6. [3]

4.8.2 Evaluate.

3/8 × 4/9	2/3 × 9/10	5/7 × 4/15	3/4 of 8/9	5/6 of 3/10	7/8 of 2/5
5/8 ÷ 3/4	5/6 ÷ 1/3	4/5 ÷ 7/10	1 2/3 ÷ 2/5	2 3/7 ÷ 1 1/7	1 1/4 ÷ 1 7/8

Exercises 4.9 and 4.10 · Fractions and decimals

4.9.1 Change each fraction to a decimal.

3/4	4/5	9/20	17/50	1/3	3/8	7/16	2/9	7/11

4.9.2 Change each mixed number to a decimal.

2 3/4	3 3/5	4 7/20	6 11/50	5 2/3	6 7/8	5 9/16	4 2/9	5 3/7

4.10 Change each decimal to a fraction or mixed number in its simplest form.

0.5	0.7	0.6	0.75	0.825	0.05	0.050	0.402	0.0002
2.4	6.5	8.2	3.75	10.55	9.204	15.455	30.001	1.0205

Exercise 4.11 · Recurring decimals (Extended)

4.11.1 Convert each recurring decimal to a fraction in its simplest form. Show the x, 10x (or 100x) method. [8]

(a) 0.333… · (b) 0.777… · (c) 0.4242… · (d) 0.6565…

(e) 0.0555… · (f) 0.06262… · (g) 1.0222… · (h) 4.00383838…

4.11.3 Without a calculator, work out 0.1515… + 0.0404… by first changing each decimal to a fraction. [3]

4.11.4 Without a calculator, work out 0.2727… − 0.10606… by first changing each decimal to a fraction. [3]

Student assessment

A1 Evaluate: (a) 1/3 of 63 · (b) 3/8 of 72 · (c) 2/5 of 55 · (d) 3/13 of 169 [4]

A2 Write as percentages: 3/5, 49/100, 1/4, 9/10, 1 1/2, 3 27/100, 5/100, 7/20, 0.77, 0.03, 2.9, 4 [6]

A3 Work out 368 × 49, and 7835 ÷ 23 to 1 d.p. [4]

A4 Evaluate: (a) 2 1/2 − 4/5 · (b) 3 1/2 × 4/7 [4]

A5 Change to decimals: 7/8, 1 2/5, 8/9, 3 2/7. Change to fractions in their simplest form: 6.5, 0.04, 3.65, 3.008. [8]

A6 Convert to fractions in their simplest form: 0.0707..., 0.000999..., 3.020202... [6]

Check yourself

1 Explain why you must change 2 1/2 to 5/2 before working out 2 1/2 × 4/5. [2]

2 A student writes 1/2 + 1/3 = 2/5. Explain the mistake and give the correct answer. [2]

3 Show that 3/8, 0.375 and 37.5% are the same number. [2]

4 Why do you multiply by 100, not 10, to convert 0.4545... to a fraction? [2]

Chapter quiz

Q1 What is 3/5 of 35?

A	B	C	D
7	15	21	28

Q2 What is 3 5/8 as an improper fraction?

A	B	C	D
15/8	24/8	29/8	35/8

Q3 What is 3/5 as a percentage?

A	B	C	D
35%	53%	60%	65%

Q4 What is 5/8 as a decimal?

A	B	C	D
0.58	0.6	0.625	1.6

Q5 What is 4/5 − 1/3?

A	B	C	D
3/2	3/15	7/15	17/15

Q6 What is 3/8 ÷ 3/4?

A	B	C	D
9/32	1/2	2	32/9

Q7 What is 0.45 as a fraction in its simplest form?

A	B	C	D
4/5	9/20	45/10	45/1000

Q8 What is 0.444… (4 recurring) as a fraction?

A	B	C	D
4/10	4/9	44/100	4/99

End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/o-level-mathematics/chapter-4-integers-fractions-decimals-and-percentages/