



Unit 1: Integers, powers and roots.

The book answers:

Chapter 1

Check in

- 1 a -1 b -2 c -3 d -1
e -6 f -3
- 2 a 16 b 125 c 1 d 27
- 3 a 25 b 13 c 25
- 4 a 2500 b 2460 c 2000

Exercise 1A

- 1 b 2, 0, -2
- 2 a 3 b 3 c -2 d 0 e -1 f 1
- 3 a -3 b -5 c -7 d -6 e -10 f
- 4 a -6 b -2 c -5 d -7 e -79 f -511
g -675 h -682
- 5 a 0 b -1 c -7 d -7 e 3 f -1
- 6 a -2 b 2 c 1 d -2 e 8 f 0
- 7 a 7 b 12 c 13 d 4 e -5 f -5
g 3 h 11
- 8 a 8 b 1 c 4 d 11 e 0 f -1
g 6 h 5 i 7 j 11 k -1 l -13
- 9 \$110
- 10 -1°C

11

-1	-4	23
30	6	-18
11	16	13

- 12 a Wrong, that rule only applies when the signs are next to each other when adding and subtracting, the correct answer is -7
- b Wrong, he has subtracted the wrong way round $8 - 10 = -2$
- c correct
- d Wrong, $7 - -4 = 7 + 4 = 11$, he has subtracted 7 from 4
- e Wrong, he should have done $7 - 4 + 2 = 3 + 2 = 5$ as there are no brackets around the $4 + 2$

14 a

-	2	-1	other answers are possible
3	1	4	
4	2	5	

b

-	-1	0	other answers are possible
3	4	3	
4	5	4	



Exercise 1B

- 1 a -8 b -20 c -12
2 a -12 b -16 c -18 d -20 e -6 f -56
3 b -20 c -12 d -30 e -2
4 a -24 b -21 c -4 d -8 e -16 f -100
g -28 h -18 i -27
5 a -54 b -32 c -40 d -24 e -24 f -33
g -3 h -9 i -36
6 a 2 b 3 c 5 d -4 e -4 f -3
7 a 2 b 3 c 5 d -4 e -4 f -3
8 a $3 \times \square = 18$ b $2 \times \square = -8$ c $-3 \times \square = 12$
d $-3 \times \square = 9$ e $-4 \times \square = 16$ f $-1 \times \square = -4$
9 a 6 b -4 c -4 d -3 e -4 f 4
10 a -60 b -36 c -4 d -14
11 multiple answers, e.g. $-735 = 15 \times -49$,
 $-735 \div -49 = 15$
12 a -2852 b -630 c 816 d -17 856 e -72 f 17
13 When you multiply or divide two negative numbers you get a positive answer.
14 No, because to get a negative answer when multiplying one value must be positive and one value must be negative so it won't be the same number multiplying by itself

Exercise 1D

- 1 a 4 b 23 c 11 d 64 e 19
f -5 g 3 h 0 i -5
2 a 25 b 10 c 17 d 6 e 17
f 9 g 16 h 13 i -30
3 a $(6 + 4) \times 10 = 100$ b $3 + 12 \div (2 + 1) = 7$
c $100 - 10 \times (6 - 4) = 80$
4 He has added the 2 to the 8 instead of to the 15, then subtracted 10. The correct answer is 9.
5 a 9 b -20 c 10 d 29
6 a -10 b -50 c 76 d 6 e -5
7 a 4 b 4 c 12 d 2 e 8 f 5
8 If you do not get the same answers check both methods again, then check with a friend. If you still are unsure ask your teacher.
9 No, he is incorrect because you have to work out the indices first so $10 - 2^2 = 10 - 4 = 6$
10 a $(6 + 2^2) \times 10 = 100$ b $3 + 12 \div (2 - -1) = 7$
c $10^2 - 10 \times (6 - 4) = 80$
11 $= 20 - 8 + 2$ Then Addition
 $= 20 - 10$ Then Subtraction
These shouldn't be two separate steps. Odaro has worked out $20 - (8 + 2)$ or $20 - 8 - 2$ by mistake.
12 a 25 b -14 c -54

The homework book answers:

1A

- 1 a -3, -5, -7 b 2, -5, -12 c -16, -11, -6
2 a 2 b 1 c 0 d -2
e 6 f 6 g -2 h -7
i -8 j -8 k -9 l -27
m -13 n -17 o -13 p -12
3 a 10 b 11 c 13 d 2
e 2 f -6 g 0 h 3
i -6 j -2 k 23 l -28
4 a 1 b -5 c 10
d -16 e 12 f 49
g -6 h 0 i -5
5 a 9 b -30 c -9
d -5 e -26 f 24
6 -1
7 possible answer: -5, -2, -1, 1, 4
8 a 1, -13, -5 b -12, -9, 5 c -1, 7, -4

1B

- 1 a -24 b -56 c -25 d -80
e -27 f -112 g -48 h -18
i -32 j -55 k -27 l -80
2 a -24 b -30 c -12
d -54 e -56 f -110
3 0
4 a 4 b -12
5 a -2 b -5 c -9 d -2
e -3 f -5 g -8 h -3
i -6 j -7 k -14 l -15
6 a -4 b -8 c -4 d -5
7 a -3 b -12 c -18 d -2
e -2 f -5 g 3 h -15

1D

1	a 3	b 26	c 2	d 13
	e 29	f 26	g -62	h -13
	i -11	j 11	k 14	l 9
	m 5	n 9	o 62	p 17
	q 17	r -3		
2	a 14	b 9	c 27	d 10
	e 24	f -27	g 280	h 6
	i 480			
3	a 17	b -1	c 56	
	d 46	e -400	f 10	
	g -10	h 0	i 50	

- 4
- a $5 \times (6 + 7) = 65$
 - b $(20 - 12) + 4 = 2$
 - c $12 \times (9 - 8) \times 2 = 24$
 - d $(7 \times 2 - 10) + 2 = 2$
 - e $(14 - 10) + 2 = 2$
 - f $(9 + 6) \times (8 - 5) = 45$