



The National  
Orthodox School  
Shmaisani

## **Unit 11: ratio and proportion**

### **Student's book.**

## Check in

1 Students' own answers, e.g.

a  $\frac{6}{8}, \frac{15}{20}$

b  $1\frac{1}{2}, \frac{12}{15}$

2 a  $\frac{1}{3}$

b  $\frac{4}{5}$

c  $\frac{17}{20}$

d  $\frac{1}{3}$

## Exercise 11A

1 a 5:1      b 1:5      c 3:1      d 1:3

e 4:5      f 5:4      g 12:11      h 6:1

i 5:7      j 1:5      k 12:1      l 3:5

2 a, d and f

4 a 1:1      b 1:1:1      c 1:1

5 It is the wrong way round: it should be 3:4

6 a 10:15:6      b 10:7:15      c 5:2:3:4

7 a 2:5      b 35:18      c 3:5      d 9:7:8

8 a  $\frac{2}{3}$       b  $\frac{1}{6}$       c  $\frac{1}{6} : \frac{2}{3}$

d 1:4      e 4, 4

9 a 2:3      b 3:5      c 1:5

d 7:5      e 3:2      f 5:3

10 a 16:9      b 7:10      c 4:3

d 16:15      e 16:9      i 15:28

11 a 1:12      b 23:2      c 9:13      c 24:45:40

12 a 2:5:7      b 2:2:3

13 10:13

## Exercise 11B

1 a 5      b into 7 equal pieces

2 a 5      c 20 kg

3 a divide the apples into 4 equal groups

b 3      c 9

5 a \$0.75 and \$0.25      b \$0.50 and \$0.50

c \$0.90 and \$0.10      d \$0.70 and \$0.30

e \$0.85 and \$0.15      f \$0.16 and \$0.84

6 a \$3.75 and \$1.25      b \$4.50 and \$0.50

c \$4.25 and \$0.75

7 a 20 and 10 sheep      b 15 and 15 sheep

c 24 and 6 sheep      d 21 and 9 sheep

e 8 and 22 sheep      f 3 and 27 sheep

- 8** a 270 kg ; 180 kg                      **b** 63 m ; 72 m  
c 200 ml ; 500 ml                      **d** \$85 ; \$119
- 9** a 60 g ; 140 g                      **b** 24 cm ; 36 cm  
c 48 ml ; 64 ml                      **d** 9 mins ; 21 mins ; 30 mins
- 10** Milly has forgotten the step  $56 \div 8 = 7$ ;  
Jamil gets  $7 \times 3 = 21$ ; Harry gets  $7 \times 5 = 35$
- 11** 2 more
- 12** 105 and 60

## The homework book.

### 11A

- 1 a 1:2      b 1:2      c 2:1      d 3:2  
e 3:4      f 7:4      g 7:5      h 5:2  
i 3:2      j 8:3      k 7:9      l 1:5  
m 7:5      n 8:9      o 77:37      p 56:59

- 2 7:14 = 1:2  
12:9 = 4:3  
3:1 = 42:14  
20:24 = 5:6  
52:13 = 4:1  
21:18 = 7:6

The odd one out is 6:7.

- 3 a 2:3:4      b 5:2:1      c 8:3:5      d 8:1:5  
4 a 3:20      b 4:25      c 70:13      d 23:42  
e 6:3:7      f 1:8:3      g 3:2:10      h 11:16:5  
5 a 1:2      b 4:1      c 6:7      d 10:7  
e 7:2      f 1:6      g 7:4      h 4:11  
i 9:8      j 21:32      k 7:9      l 10:21  
6 a 1:12      b 24:1      c 24:5      d 6:5  
e 16:3:5      f 6:4:3      g 16:1      h 6:15:16

## 11B

- 1 a 8                      b 4
- 2 10 dark chocolates and 25 milk chocolates
- 3 a  $22 : 78 (= 11 : 39)$   
b 220 ml of mango juice and 780 ml of apple juice
- 4 a \$80, \$40                      b 300 cm, 450 cm  
c 1.14 kg, 2.28 kg                      d 28 minutes, 20 minutes
- 5 a 108 minutes, 12 minutes  
b 4 days, 10 days  
c 350 ml, 250 ml  
d 3 m, 4.5 m
- 6 102 and 126
- 7  $100^\circ, 60^\circ, 20^\circ$