2.6-4 Ratio and Proportion: Practice Set 4: 30-minute Pack

Total Marks

GL ASSESSMENT EP.M67 · Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Simplify the ratio 0.8 : 3.2 to its simplest whole-number form.

(1)

---

2 Write the ratio 750 g : 2 kg in its simplest whole-number form.

(1)

---

3 11 identical protractors cost £9.90 in total. Calculate the cost of 4 of these protractors.

(2)

---

4 A cyclist rides at a constant speed and covers 42 km in 3 hours. At this speed, how far would the cyclist travel in 5 hours?

- ☐ A) 60 km
- ☐ B) 65 km
- ☐ C) 70 km
- ☐ D) 75 km

© Revision Library | revisionlibrary.co.uk

5 A curry recipe for 4 people uses 500 g of chicken, 2 stock cubes, 4 chillies and 250 ml of cream. The recipe is scaled up for 10 people.

(a) Calculate the mass of chicken needed for 10 people. **(1)**

.....

(b) Calculate the number of stock cubes needed for 10 people. **(1)**

.....

(c) Calculate the number of chillies needed for 10 people. **(1)**

.....

(d) Calculate the volume of cream needed for 10 people. **(1)**

.....

---

6 Kwame and Elif share 96 sweets in the ratio 5 : 3. Calculate how many sweets Elif receives.

(2)

---

7 There are 35 pupils in a class. The ratio of pupils who walk to school to those who do not walk is 2 : 5. Calculate the number of pupils who walk to school.

(2)

---

8 A fruit bowl contains lemon muffins and orange muffins in the ratio 9 : 11. Calculate what percentage of the muffins are lemon muffins.

(2)

© Revision Library | revisionlibrary.co.uk

9 It takes 6 identical taps, running at the same constant rate, 10 hours to fill a swimming pool. Calculate how long it would take 4 of these taps, running at the same rate, to fill the same pool.

(3)

---

10 A map has a scale of 1 : 40 000. Two lighthouses are 6.25 cm apart on the map. Calculate the real distance between them, giving your answer in kilometres.

(3)

---

11 A prize fund of £480 is shared between three quiz teams, the Eagles, the Falcons and the Hawks, in the ratio 5 : 4 : 3. Calculate how much more money the Eagles receive than the Hawks.

(3)

---

12 A poster measuring 30 cm by 42 cm is enlarged proportionally so that its new width is 45 cm. Calculate the new height of the poster.

(3)

© Revision Library | revisionlibrary.co.uk

13 Priya, Reuben and Aisha invest money in a bakery in the ratio 5 : 6 : 9 respectively. The bakery makes a profit of £1200, which is shared in the same ratio as their investment. Calculate how much profit Reuben receives.

(3)

---

14 In a fruit bowl, the ratio of apples to pears is 3 : 2. The ratio of pears to plums is 5 : 4. Calculate the ratio of apples to pears to plums, giving your answer in its simplest form.

(3)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 2.6-4 Ratio and Proportion: Practice Set 4: 30-minute Pack

Question 1

1 : 4 oe cao **B1**

Answer: 1 : 4

Question 2

3 : 8 oe cao **B1**

Answer: 3 : 8

Question 3

unit cost found: 9.90/11 = 0.90 **M1**

£3.60 cao **A1**

Answer: £3.60

Question 4

C (70 km) cao **B1**

Answer: C) 70 km

Question 5

(a) 1250 g oe (1.25 kg) cao **B1**

(a) Answer: 1250 g

(b) 5 cao **B1**

(b) Answer: 5

(c) 10 cao **B1**

(c) Answer: 10

(d) 625 ml cao **B1**

(d) Answer: 625 ml

Question 6

total parts found (5 + 3 = 8) and unit value found: 96/8 = 12 **M1**

36 cao **A1**

Answer: 36

Question 7

total parts found (2 + 5 = 7) and unit value found: 35/7 = 5 **M1**

10 cao **A1**

Answer: 10

Question 8

total parts found (9 + 11 = 20) and fraction 9/20 set up, or equivalent method **M1**

45% oe cao **A1**

Answer: 45%

Question 9

total 'tap-hours' found: 6 x 10 = 60 **M1**

dep: their 60/4 **M1**

15 hours cao **A1**

Answer: 15 hours

Question 10

real distance found in cm: 6.25 x 40 000 = 250 000 **M1**

dep: converts their 250 000 cm to metres then kilometres (250 000/100 = 2500 m, then /1000) **M1**

2.5 km cao **A1**

Answer: 2.5 km

Question 11

total parts found (5 + 4 + 3 = 12) and unit value found: 480/12 = 40 **M1**

dep: Eagles' share and Hawks' share found (5 x 40 = 200, 3 x 40 = 120) **M1**

£80 cao **A1**

Answer: £80

Question 12

scale factor found: 45/30 = 1.5 **M1**

dep: their 1.5 x 42 **M1**

63 cm cao **A1**

Answer: 63 cm

Question 13

total parts found (5 + 6 + 9 = 20) and unit value found: 1200/20 = 60 **M1**

dep: their 6 x 60 **M1**

£360 cao **A1**

Answer: £360

Question 14

finds a common value for pears in both ratios (e.g. scales 3:2 to 15:10 and 5:4 to 10:8, using the LCM of 2 and 5, which is 10) **M1**

dep: combines to give 15 : 10 : 8 **M1**

15 : 10 : 8 cao (already in simplest form, HCF = 1) **A1**

Answer: 15 : 10 : 8

© Revision Library | revisionlibrary.co.uk