3.2 Writing and Simplifying Ratios: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 4/7 of the sweets in a jar are red and the rest are green. Write the ratio of red sweets to green sweets in its simplest form.

(2)

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2 Write the ratio 20 : 50 in its simplest form.

(1)

---

3 Write the ratio 8 cm : 6 m in its simplest form.

(2)

---

4 Write the ratio 18 : 16 : 6 in its simplest form.

(2)

---

5 Write the ratio 5 : 29 in the form 1 : n.

(2)

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6 Jack's fruit squash is made with juice and water in the ratio 6 : 8. Victor's squash is made with juice and water in the ratio 5 : 4. Whose squash is stronger (has the greater fraction of juice)? Show your working.

(3)

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7 Write the ratio 8 : 20 in the form 1 : n.

(2)

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8 Write the ratio 35 : 20 : 10 in its simplest form.

(2)

---

9 Write the ratio 8 cm : 4 m in its simplest form.

(2)

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10 Share 84 stickers in the ratio 5:1. Work out how many stickers the smaller share gets.

(2)

---

11 Write the ratio 8 : 40 in its simplest form.

(1)

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12 Write the ratio 20 : 41 in the form 1 : n.

(2)

---

13 The ratio of the length of a model to the length of the real plane is 4 : 5. Write this ratio in the form 1 : n.

(2)

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14 Orla's fruit squash is made with juice and water in the ratio 4 : 3. Elena's squash is made with juice and water in the ratio 1 : 4. Whose squash is stronger (has the greater fraction of juice)? Show your working.

(3)

---

15 Write the ratio 10 cm : 3 m in its simplest form.

(2)

---

16 The ratio of the length of a model to the length of the real plane is 8 : 38. Write this ratio in the form 1 : n.

(2)

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17 Victor's fruit squash is made with juice and water in the ratio 4 : 8. Noah's squash is made with juice and water in the ratio 4 : 6. Whose squash is stronger (has the greater fraction of juice)? Show your working.

(3)

---

18 Red and blue paint are mixed in the ratio 5 : 6. What fraction of the mixture is red?

(2)

---

19 Write each ratio as a fraction in simplest form.

(a) 4:5 as a fraction **(1)**

(b) 3:6 as a fraction in simplest form **(1)**

(c) 7:2 as a fraction **(1)**

---

20 Elena's fruit squash is made with juice and water in the ratio 4 : 2. Ben's squash is made with juice and water in the ratio 1 : 7. Whose squash is stronger (has the greater fraction of juice)? Show your working.

(3)

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21 Write the ratio 0.1 : 0.5 in its simplest form using whole numbers.

(2)

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22 The ratio of the length of a model to the length of the real plane is 25 : 63. Write this ratio in the form 1 : n.

(2)

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Mark scheme · 3.2 Writing and Simplifying Ratios: 1-hour Pack

Question 1

green = 1 - 4/7 = 3/7	M1
4 : 3 cao	A1

Answer: **4 : 3**

Question 2

2 : 5 cao	B1

Answer: **2 : 5**

Question 3

converts to the same units: 8 : 600	M1
1 : 75 cao	A1

Answer: **1 : 75**

Question 4

divides by a common factor	M1
9 : 8 : 3 cao	A1

Answer: **9 : 8 : 3**

Question 5

divides both parts by 5	M1
1 : 5.8 cao	A1

Answer: **1 : 5.8**

Question 6

6/14 or a decimal for one squash	M1
5/9 for the other, compared	M1
Victor's squash is stronger	A1

Answer: **Victor's squash is stronger**

Question 7

divides both parts by 8	M1
1 : 2.5 cao	A1

Answer: **1 : 2.5**

Question 8

divides by a common factor	M1
7 : 4 : 2 cao	A1

Answer: **7 : 4 : 2**

Question 9

converts to the same units: 8 : 400	M1
1 : 50 cao	A1

Answer: **1 : 50**

Question 10

method: 5 + 1 = 6 parts, 84/6 = 14	M1
14 stickers cao	A1

Answer: **14 stickers**

Question 11

1 : 5 cao	B1

Answer: **1 : 5**

Question 12

divides both parts by 20	M1
1 : 2.05 cao	A1

Answer: **1 : 2.05**

Question 13

5 ÷ 4	M1
1 : 1.25 cao	A1

Answer: **1 : 1.25**

Question 14

4/7 or a decimal for one squash	M1
1/5 for the other, compared	M1
Orla's squash is stronger	A1

Answer: **Orla's squash is stronger**

Question 15

converts to the same units: 10 : 300	M1
1 : 30 cao	A1

Answer: **1 : 30**

Question 16

38 ÷ 8	M1
1 : 4.75 cao	A1

Answer: **1 : 4.75**

Question 17

4/12 or a decimal for one squash	M1
4/10 for the other, compared	M1
Noah's squash is stronger	A1

Answer: **Noah's squash is stronger**

Question 18

5 + 6 = 11 parts	M1
5/11 cao	A1

Answer: **5/11**

Question 19

(a) 4/5 cao	B1

(a) Answer: **4/5**

(b) 1/2 cao	B1

(b) Answer: **1/2**

(c) 7/2 cao	B1

(c) Answer: **7/2**

Question 20

4/6 or a decimal for one squash	M1
1/8 for the other, compared	M1
Elena's squash is stronger	A1

Answer: **Elena's squash is stronger**

Question 21

multiplies both parts by 10	M1
1 : 5 cao	A1

Answer: **1 : 5**

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Question 22

63 ÷ 25	**M1**
1 : 2.52 cao	**A1**

Answer: **1 : 2.52**

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