2.3 Fractions: Test Pack

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Simplify each fraction fully.

(a) 8/12 **(1)**

(b) 15/40 **(1)**

(c) 24/36 **(1)**

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2 Fractions can be written in different equivalent forms.

(a) Find the missing number: 3/4 = ?/20 **(1)**

(b) Find the missing number: 5/6 = 20/? **(1)**

(c) Which fraction is larger, 3/5 or 7/10? **(1)**

- ☐ A) 3/5
- ☐ B) 7/10
- ☐ C) They are equal

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3 Write these fractions in order of size, smallest first: 3/8, 1/2, 2/3, 5/6

(2)

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4 Convert between mixed numbers and improper fractions.

(a) Write 17/5 as a mixed number. **(1)**

(b) Write 4 3/7 as an improper fraction. **(1)**

(c) Write 29/6 as a mixed number in its simplest form. **(1)**

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5 Work out each answer, giving each fraction in its simplest form.

(a) 2/9 + 5/9 **(1)**

.....

(b) 7/8 - 3/8 **(1)**

.....

(c) 1/3 + 1/4 **(2)**

.....

(d) 5/6 - 2/9 **(2)**

.....

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6 Work out each fraction of an amount.

(a) Find 3/8 of 48 kg. **(2)**

.....

(b) Find 5/6 of 42 km. **(2)**

.....

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7 Mei walks 3 4/5 km before lunch and 3 7/10 km after lunch. How far does Mei walk altogether?

- ☐ A) 6 11/15 km
- ☐ B) 7 1/10 km
- ☐ C) 6 km
- ☐ D) 8 1/2 km
- ☐ E) 7 1/2 km

---

8 Fractions, decimals and percentages are linked.

(a) Write 3/8 as a decimal. **(1)**

(b) Write 0.35 as a fraction in its simplest form. **(2)**

(c) Write 7/20 as a percentage. **(1)**

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9 Priya, from Cardiff, makes a fruit punch using 2/5 orange juice. Layla makes her punch using 5/12 orange juice. Who has the higher proportion of orange juice in her punch? Show working to justify your answer.

(3)

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10 Fatima walks 1 1/3 km before lunch and 2 3/5 km after lunch. How far does Fatima walk altogether?

- ☐ A) 3 1/2 km
- ☐ B) 3 14/15 km
- ☐ C) 3 4/5 km
- ☐ D) 4 14/15 km
- ☐ E) 3 km

---

11 A ribbon is 3 7/8 m long. Hamza cuts off 3 4/5 m. How much ribbon is left?

- ☐ A) 3/8 m
- ☐ B) 3/13 m
- ☐ C) 3/40 m
- ☐ D) 1 3/40 m
- ☐ E) 1 27/40 m

---

12 Write 3/21 in its simplest form.

- ☐ A) 0/18
- ☐ B) 7/1
- ☐ C) 3/7
- ☐ D) 1/7
- ☐ E) 1/21

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13 Which of the following fractions is NOT equivalent to 3/4?

- ☐ A) 6/8
- ☐ B) 9/12
- ☐ C) 12/15
- ☐ D) 15/20

---

14 Write 6/9 in its simplest form.

- ☐ A) 2/3
- ☐ B) 3/2
- ☐ C) 2/9
- ☐ D) 6/3
- ☐ E) 3/6

---

15 Put these in order of size, smallest first: 7/10, 68%, 0.72, 3/4

(3)

---

16 A ribbon is 2 3/8 m long. Grace cuts off 1 2/3 m. How much ribbon is left?

- ☐ A) 1 1/11 m
- ☐ B) 2 1/24 m
- ☐ C) 1 m
- ☐ D) 17/24 m
- ☐ E) 1 1/8 m

---

17 Chloe walks 2 5/6 km before lunch and 1 2/3 km after lunch. How far does Chloe walk altogether?

- ☐ A) 3 7/9 km
- ☐ B) 5 1/2 km
- ☐ C) 4 1/2 km
- ☐ D) 4 1/6 km
- ☐ E) 3 km

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18 Yusuf walks 4 1/2 km before lunch and 2 1/3 km after lunch. How far does Yusuf walk altogether?

- [ ] A) 6 1/6 km
- [ ] B) 6 km
- [ ] C) 6 2/5 km
- [ ] D) 6 2/3 km
- [ ] E) 6 5/6 km

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19 Write 42/49 in its simplest form.

- [ ] A) 6/7
- [ ] B) 35/42
- [ ] C) 6/49
- [ ] D) 42/7
- [ ] E) 7/6

---

20 1/7 = ?/35. What number replaces the question mark?

- [ ] A) 29
- [ ] B) 4
- [ ] C) 5
- [ ] D) 35
- [ ] E) 6

---

21 Megan walks 1 7/8 km before lunch and 2 3/5 km after lunch. How far does Megan walk altogether?

- [ ] A) 4 19/40 km
- [ ] B) 3 10/13 km
- [ ] C) 3 km
- [ ] D) 5 19/40 km
- [ ] E) 4 1/4 km

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22 Aisha walks 2 1/8 km before lunch and 2 1/5 km after lunch. How far does Aisha walk altogether?

- [ ] A) 4 km
- [ ] B) 4 2/13 km
- [ ] C) 4 1/4 km
- [ ] D) 5 13/40 km
- [ ] E) 4 13/40 km

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23 Declan walks 1 4/5 km before lunch and 1 1/2 km after lunch. How far does Declan walk altogether?

- [ ] A) 2 km
- [ ] B) 2 5/7 km
- [ ] C) 4 3/10 km
- [ ] D) 3 km
- [ ] E) 3 3/10 km

---

24 Aisha walks 2 4/5 km before lunch and 4 1/5 km after lunch. How far does Aisha walk altogether?

- [ ] A) 6 km
- [ ] B) 6 1/2 km
- [ ] C) 6 3/5 km
- [ ] D) 7 km
- [ ] E) 8 km

---

25 Harry walks 3 1/2 km before lunch and 4 7/8 km after lunch. How far does Harry walk altogether?

- [ ] A) 6 5/8 km
- [ ] B) 7 km
- [ ] C) 8 3/8 km
- [ ] D) 7 4/5 km
- [ ] E) 8 km

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26 Kwame walks 1 1/4 km before lunch and 2 3/4 km after lunch. How far does Kwame walk altogether?

- ☐ A) 4 km
- ☐ B) 3 km
- ☐ C) 5 km
- ☐ D) 2 1/2 km
- ☐ E) 3 1/2 km

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27 A ribbon is 5 1/2 m long. Aisha cuts off 3 2/5 m. How much ribbon is left?

- ☐ A) 1 6/7 m
- ☐ B) 2 m
- ☐ C) 2 1/5 m
- ☐ D) 2 9/10 m
- ☐ E) 2 1/10 m

---

28 On a school trip organised from a school in Bristol, 2/5 of the students travel by coach. Of the students who do not travel by coach, 1/4 walk and the rest cycle. Given that 18 students cycle, work out the total number of students who went on the trip.

(5)

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29 Show that 3/4 - 2/5 + 1/10 = 9/20

(3)

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30 3/5 of a number is 45. Find 2/7 of the same number.

(4)

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Mark scheme · 2.3 Fractions: Test Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

(a) 2/3 cao **B1**

(a) Answer: 2/3

(b) 3/8 cao **B1**

(b) Answer: 3/8

(c) 2/3 cao **B1**

(c) Answer: 2/3

Question 2

(a) 15 cao **B1**

(a) Answer: 15

(b) 24 cao **B1**

(b) Answer: 24

(c) 7/10 cao (option B) **B1**

(c) Answer: B) 7/10

Question 3

all four fractions converted to a common denominator (e.g. twenty-fourths: 9/24, 12/24, 16/24, 20/24) **M1**

3/8, 1/2, 2/3, 5/6 cao, in this order **A1**

Answer: 3/8, 1/2, 2/3, 5/6

Question 4

(a) 3 2/5 cao **B1**

(a) Answer: 3 2/5

(b) 31/7 cao **B1**

(b) Answer: 31/7

(c) 4 5/6 cao **B1**

(c) Answer: 4 5/6

Question 5

(a) 7/9 cao **B1**

(a) Answer: 7/9

(b) 1/2 cao **B1**

(b) Answer: 1/2

(c) common denominator of 12 used, e.g. 4/12 + 3/12 **M1**

(c) 7/12 cao **A1**

(c) Answer: 7/12

(d) common denominator of 18 used, e.g. 15/18 - 4/18 **M1**

(d) 11/18 cao **A1**

(d) Answer: 11/18

Question 6

(a) 48 / 8 (= 6) seen **M1**

(a) 18 (kg) cao **A1**

(a) Answer: 18 kg

(b) 42 / 6 (= 7) seen **M1**

(b) 35 (km) cao **A1**

(b) Answer: 35 km

Question 7

correct option E (7 1/2 km) cao **B1**

Answer: E) 7 1/2 km

Question 8

(a) 0.375 cao **B1**

(a) Answer: 0.375

(b) 35/100 seen **M1**

(b) 7/20 cao **A1**

(b) Answer: 7/20

(c) 35% cao **B1**

(c) Answer: 35%

Question 9

common denominator of 60 used for both fractions **M1**

2/5 = 24/60 and 5/12 = 25/60, both correct **A1**

correct conclusion: Layla has the higher proportion of orange juice **B1**

Answer: Layla (25/60 > 24/60)

Question 10

correct option B (3 14/15 km) cao **B1**

Answer: B) 3 14/15 km

Question 11

correct option C (3/40 m) cao **B1**

Answer: C) 3/40 m

Question 12

correct option D (1/7) cao **B1**

Answer: D) 1/7

Question 13

C cao (12/15 = 4/5, not 3/4) **B1**

Answer: C) 12/15

Question 14

correct option A (2/3) cao **B1**

Answer: A) 2/3

Question 15

at least three values correctly converted to a common form (e.g. decimals: 0.70, 0.68, 0.72, 0.75) **M1**

all four values correctly converted **A1**

68%, 7/10, 0.72, 3/4 cao, in this order **A1**

Answer: 68%, 7/10, 0.72, 3/4

Question 16

correct option D (17/24 m) cao **B1**

Answer: D) 17/24 m

Question 17

correct option C (4 1/2 km) cao **B1**

Answer: C) 4 1/2 km

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Question 18

correct option E (6 5/6 km) cao **B1**

Answer: E) 6 5/6 km

Question 19

correct option A (6/7) cao **B1**

Answer: A) 6/7

Question 20

correct option C (5) cao **B1**

Answer: C) 5

Question 21

correct option A (4 19/40 km) cao **B1**

Answer: A) 4 19/40 km

Question 22

correct option E (4 13/40 km) cao **B1**

Answer: E) 4 13/40 km

Question 23

correct option E (3 3/10 km) cao **B1**

Answer: E) 3 3/10 km

Question 24

correct option D (7 km) cao **B1**

Answer: D) 7 km

Question 25

correct option C (8 3/8 km) cao **B1**

Answer: C) 8 3/8 km

Question 26

correct option A (4 km) cao **B1**

Answer: A) 4 km

Question 27

correct option E (2 1/10 m) cao **B1**

Answer: E) 2 1/10 m

Question 28

fraction not travelling by coach found, e.g. 1 - 2/5 = 3/5 **M1**

fraction walking found in terms of the whole, e.g. 1/4 x 3/5 = 3/20 **M1**

fraction cycling found, e.g. 3/5 - 3/20 = 9/20 **M1**

equation set up correctly, e.g. 9/20 x T = 18 **M1**

40 cao **A1**

Answer: 40 students

Question 29

common denominator of 20 used for all three fractions, e.g. 15/20, 8/20, 2/20 **M1**

correct combination shown, e.g. 15/20 - 8/20 + 2/20 = 9/20 **A1**

cso, all working shown correctly leading to the printed answer 9/20 **A1**

Answer: 9/20 (answer printed in question)

Question 30

45 / 3 x 5, or equivalent complete method to find the whole number **M1**

75 identified as the number **A1**

2/7 x 75, ft from the number found **M1**

150/7 oe 21 3/7 cao **A1**

Answer: 150/7 (21 3/7)

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