4.1 Reasoning: Fractions, Decimals and Percentages: 2-hour Pack

STA KS2 National Curriculum Mathematics - STA Reasoning Test Framework · Calculators not allowed · about 120 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A pencil costs £17.33 and a ruler costs £15.85.

How much more does the dearer item cost?

Answer: £___

(1)

---

2 Write these fractions in order, starting with the largest.

9/10, 4/5, 3/10

Answer: ___

(2)

---

3 Work out 3/10 + 3/5.

Give your answer in its simplest form.

Answer: ___

(2)

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4 What percentage of 40 is 6?

Answer: ___ %

(1)

---

5 A sandwich costs £13.56 and a bun costs £5.54. Sofia pays with a £20 note.

How much change does Sofia get?

Answer: £___

(2)

---

6 2/3 of the books in a jar is 24. How many books are in the jar?

Answer: ___

(2)

---

7 What is the value of the digit 3 in 9.583?

Answer: ___

(1)

---

8 Work out 10% of 80.

Answer: ___

(1)

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9 What percentage of 80 is 72?

Answer: ___ %

(2)

---

10 Work out 25% of 108.

Answer: ___

(2)

---

11 Daisy has 45 badges. Daisy gives 4/5 of them to a friend.

How many badges does Daisy give to the friend?

Answer: ___

(1)

---

12 Order these decimals from smallest to largest: 0.45, 0.405, 0.54, 0.045

(2)

---

13 Write 10% as a fraction in its simplest form.

Answer: ___

(1)

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14 Work out 5/6 - 1/6.

Give your answer in its simplest form.

Answer: ___

(1)

---

15 Write 90% as a fraction in its simplest form.

Answer: ___

(2)

---

16 Work out 40% of 92.

Answer: ___

(2)

---

17 Write these in order, smallest first.

7/10, 0.75, 30%

Answer: ___

(1)

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18 Kiran eats 3/6 of a bar of chocolate on Monday and 2/6 on Tuesday.

What fraction of the bar of chocolate is left? Give your answer in its simplest form.

Answer: ___

(2)

---

19 Ivan eats 3/8 of a ribbon on Monday and 1/8 on Tuesday.

What fraction of the ribbon is left? Give your answer in its simplest form.

Answer: ___

(2)

---

20 Write 0.375 as a percentage.

Answer: ___ %

(1)

---

21 3/6 of the grapes in a jar is 15. How many grapes are in the jar?

Answer: ___

(2)

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22 Freya has 27 sweets. Freya gives 1/3 of them to a friend.

How many sweets does Freya give to the friend?

Answer: ___

(1)

---

23 Write 0.55 as a fraction in its simplest form.

Answer: ___

(1)

---

24 In a sale, a puzzle costs £175. The price is reduced by 30%.

How much is the reduction?

Answer: £___

(1)

---

25 Work out 1/3 + 7/12.

Give your answer in its simplest form.

Answer: ___

(2)

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26 Work out 50% of 12 m.

Answer: ___

(1)

---

27 A bottle holds 8.6 litres. How many litres are there in 7 bottles?

Answer: ___ litres

(2)

---

28 Write <, > or = in the box.

3/7 [ ] 7/12

Answer: ___

(2)

---

29 Write 4/20 in its simplest form.

Answer: ___

(2)

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30 Ella pays a deposit of 15% on a football that costs £90. The rest is paid later.

How much is paid later?

Answer: £___

(3)

---

31 Work out 4 2/5 + 2 3/5.

Give your answer in its simplest form.

Answer: ___

(2)

---

32 In a sale, a toy costs £160. The price is reduced by 30%.

What is the sale price?

Answer: £___

(3)

---

33 A bottle holds 3.9 litres. How many litres are there in 3 bottles?

Answer: ___ litres

(2)

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34 1/4 of the stickers in a jar is 8. How many stickers are in the jar?

Answer: ___

(2)

---

35 Work out 1/2 of 32.

Answer: ___

(2)

---

36 Work out 4/5 - 1/5.

Give your answer in its simplest form.

Answer: ___

(2)

---

37 What is the value of the digit 6 in 7.964?

Answer: ___

(1)

---

38 Round 31.748 to 2 decimal places.

Answer: ___

(1)

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39 Write these decimals in order, starting with the smallest.

1.367, 1.338, 0.702, 1.388

Answer: ___

(1)

---

40 What is the value of the digit 9 in 7.469?

Answer: ___

(1)

---

41 Isla scored 9 out of 100 in a test.

Write this score as a percentage.

Answer: ___ %

(2)

---

42 What is the value of the digit 3 in 6.312?

Answer: ___

(1)

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43 A lolly costs £11.69 and a apple costs £5.10.

How much more does the dearer item cost?

Answer: £___

(2)

---

44 Layla eats 2/9 of a tray of flapjacks on Monday and 4/9 on Tuesday.

What fraction of the tray of flapjacks is left? Give your answer in its simplest form.

Answer: ___

(2)

---

45 What percentage of 50 is 5?

Answer: ___ %

(2)

---

46 3/4 of the pencils in a jar is 33. How many pencils are in the jar?

Answer: ___

(2)

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47 Write 5 7/8 as an improper fraction.

Answer: ___

(2)

---

48 Write 35% as a fraction in its simplest form.

Answer: ___

(1)

---

49 Reece has 18 biscuits. Reece gives 1/3 of them to a friend.

How many biscuits does Reece give to the friend?

Answer: ___

(2)

---

50 Decrease 148 cm by 50%.

Answer: ___

(2)

---

51 How many hundredths are in 0.60?

Answer: ___

(1)

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52 Write these decimals in order, starting with the smallest.

0.910, 0.339, 0.605, 1.050

Answer: ___

(1)

---

53 Write <, > or = in the box.

4/7 [ ] 10/12

Answer: ___

(2)

---

54 Write <, > or = in the box.

2/3 [ ] 2/4

Answer: ___

(1)

---

55 1/3 of the books in a jar is 8. How many books are in the jar?

Answer: ___

(2)

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56 What percentage of 120 is 18?

Answer: ___ %

(2)

---

57 Work out 2/5 + 7/10.

Give your answer in its simplest form.

Answer: ___

(2)

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Mark scheme · 4.1 Reasoning: Fractions, Decimals and Percentages: 2-hour Pack

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

Question 1

£1.48 cao — **B1**

Answer: **£1.48**

Question 2

converts to a common denominator or decimals — **M1**

9/10, 4/5, 3/10 cao — **A1**

Answer: **9/10, 4/5, 3/10**

Question 3

converts to a common denominator — **M1**

9/10 cao — **A1**

Answer: **9/10**

Question 4

15% cao — **B1**

Answer: **15%**

Question 5

19.10 seen — **M1**

£0.90 cao — **A1**

Answer: **£0.90**

Question 6

24 / 2 = 12 seen — **M1**

36 cao — **A1**

Answer: **36**

Question 7

0.003 cao — **B1**

Answer: **0.003**

Question 8

8 cao — **B1**

Answer: **8**

Question 9

fraction as a percentage — **M1**

90% cao — **A1**

Answer: **90%**

Question 10

10% or 1% found — **M1**

27 cao — **A1**

Answer: **27**

Question 11

36 cao — **B1**

Answer: **36**

Question 12

compares hundredths/thousandths correctly (e.g. states 0.405 < 0.45) oe — **M1**

0.045, 0.405, 0.45, 0.54 cao (all four in correct order) — **A1**

Answer: **0.045, 0.405, 0.45, 0.54**

Question 13

1/10 cao — **B1**

Answer: **1/10**

Question 14

2/3 cao — **B1**

Answer: **2/3**

Question 15

method seen — **M1**

9/10 cao — **A1**

Answer: **9/10**

Question 16

10% or 1% found — **M1**

36.8 cao — **A1**

Answer: **36.8**

Question 17

30%, 7/10, 0.75 cao — **B1**

Answer: **30%, 7/10, 0.75**

Question 18

5/6 eaten seen — **M1**

1/6 cao — **A1**

Answer: **1/6**

Question 19

4/8 eaten seen — **M1**

1/2 cao — **A1**

Answer: **1/2**

Question 20

37.5% cao — **B1**

Answer: **37.5%**

Question 21

15 / 3 = 5 seen — **M1**

30 cao — **A1**

Answer: **30**

Question 22

9 cao — **B1**

Answer: **9**

Question 23

11/20 cao — **B1**

Answer: **11/20**

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Question 24

£52.50 cao — B1

Answer: **£52.50**

Question 25

converts to a common denominator — M1

11/12 cao — A1

Answer: **11/12**

Question 26

6 m cao — B1

Answer: **6 m**

Question 27

multiplication seen — M1

60.2 litres cao — A1

Answer: **60.2 litres**

Question 28

common denominator seen — M1

< cao — A1

Answer: **<**

Question 29

divides numerator and denominator by a common factor — M1

1/5 cao — A1

Answer: **1/5**

Question 30

deposit found — M1

subtraction — M1

£76.50 cao — A1

Answer: **£76.50**

Question 31

converts to a common denominator — M1

7 cao — A1

Answer: **7**

Question 32

reduction found — M1

subtracts from the original price — M1

£112 cao — A1

Answer: **£112**

Question 33

multiplication seen — M1

11.7 litres cao — A1

Answer: **11.7 litres**

Question 34

8 x 4 seen — M1

32 cao — A1

Answer: **32**

Question 35

divides by the denominator — M1

16 cao — A1

Answer: **16**

Question 36

converts to a common denominator — M1

3/5 cao — A1

Answer: **3/5**

Question 37

0.06 cao — B1

Answer: **0.06**

Question 38

31.75 cao — B1

Answer: **31.75**

Question 39

0.702, 1.338, 1.367, 1.388 cao — B1

Answer: **0.702, 1.338, 1.367, 1.388**

Question 40

0.009 cao — B1

Answer: **0.009**

Question 41

converts to a fraction out of 100 — M1

9% cao — A1

Answer: **9%**

Question 42

0.3 cao — B1

Answer: **0.3**

Question 43

subtraction method — M1

£6.59 cao — A1

Answer: **£6.59**

Question 44

6/9 eaten seen — M1

1/3 cao — A1

Answer: **1/3**

Question 45

fraction as a percentage — M1

10% cao — A1

Answer: **10%**

Question 46

33 / 3 = 11 seen — M1

44 cao — A1

Answer: **44**

Question 47

method seen — M1

47/8 cao — A1

Answer: **47/8**

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Question 48

7/20 cao	B1

Answer: **7/20**

Question 49

divides by the denominator	M1
6 cao	A1

Answer: **6**

Question 50

percentage found	M1
74 cm cao	A1

Answer: **74 cm**

Question 51

60 cao	B1

Answer: **60**

Question 52

0.339, 0.605, 0.910, 1.050 cao	B1

Answer: **0.339, 0.605, 0.910, 1.050**

Question 53

common denominator seen	M1
< cao	A1

Answer: **<**

Question 54

> cao	B1

Answer: **>**

Question 55

8 x 3 seen	M1
24 cao	A1

Answer: **24**

Question 56

fraction as a percentage	M1
15% cao	A1

Answer: **15%**

Question 57

converts to a common denominator	M1
1 1/10 or 11/10 cao	A1

Answer: **1 1/10**

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