# 2.31-2 Fractions, Decimals and Percentages Depth Set 2: 30-minute Pack

GL ASSESSMENT EP.M36 · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

**Answer ALL questions. Show all your working.**

## Fractions, Decimals and Percentages Depth Set 2

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A second deeper 11+ fractions, decimals and percentages paper for scholarship-level preparation, complementing EP.M3 (Fractions), EP.M4 (Decimals), EP.M5 (Percentages), EP.M24 (Fractions, Decimals and Percentages Mixed Drill) and EP.M30 (Fractions, Decimals and Percentages Depth). It opens with equivalence, conversion and ordering across all three forms, moves through all four operations with fractions including mixed numbers, then builds to percentage change, reverse percentage, and worded multi-step problems that combine a fraction step with a percentage step. Questions are ramped from straightforward warm-up items to demanding multi-step and reverse-reasoning problems designed to stretch the strongest candidates.

**1** Calculate 3 2/5 + 1 3/4, giving your answer as a mixed number in its simplest form.

**(3)**

**2** Calculate 4 1/6 - 2 5/8, giving your answer as a mixed number in its simplest form.

**(3)**


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**3** A market stall in Norwich sells scarves for £68 each. During a promotion, the price of each scarf is increased by 35%. Work out the new price.

**(2)**

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**4** A furniture shop reduces the price of a sofa by 30% in a sale. The original price was £180. Work out the sale price.

**(2)**

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**5** The price of a train ticket rises from £40 to £54. Calculate the percentage change in the price.

**(2)**

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**6** Calculate 5/8 + 1/6, giving your answer as a fraction in its simplest form.

**(2)**

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**7** Calculate 7/9 - 2/3, giving your answer as a fraction in its simplest form.

**(2)**


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**8** Which fraction is equivalent to 5/6?

- ☐ A) 15/24
- ☐ B) 10/12
- ☐ C) 6/5
- ☐ D) 5/12
- ☐ E) 11/12

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**9** Write 9/40 as a decimal.

**(1)**

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**10** Convert 64% to a decimal.

- ☐ A) 6.4
- ☐ B) 0.064
- ☐ C) 0.64
- ☐ D) 64.0
- ☐ E) 0.46

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**11** Find 2/7 of 63.

- ☐ A) 9
- ☐ B) 18
- ☐ C) 16
- ☐ D) 21
- ☐ E) 126

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**12** Two-ninths of a number is 24. Work out five-sixths of the same number.

**(3)**


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**13** A school in Preston raises £480 at a fundraising event. 5/12 of the money is spent on new sports equipment. Of the money spent on sports equipment, 45% is spent on footballs. How much money is spent on footballs?

**(3)**

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**14** In a survey of 240 people, 3/8 said they preferred tea and 45% said they preferred coffee. The rest had no preference. How many people had no preference?

**(3)**

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**15** Calculate (3/4 - 2/5) x (1/3 + 1/6), giving your answer as a fraction in its simplest form.

**(3)**


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# Mark scheme · 2.31-2 Fractions, Decimals and Percentages Depth Set 2: 30-minute Pack

## Question 1

converts both to improper fractions: 17/5 and 7/4 **M1**

correct common denominator 20, e.g. 68/20 + 35/20 **M1**

5 3/20 cao **A1**

**Answer: 5 3/20**

## Question 2

converts both to improper fractions: 25/6 and 21/8 **M1**

correct common denominator 24, e.g. 100/24 - 63/24 **M1**

1 13/24 cao **A1**

**Answer: 1 13/24**

## Question 3

finds 35% of £68 = £23.80, oe (e.g. uses 1.35 x 68) **M1**

£91.80 cao **A1**

**Answer: £91.80**

## Question 4

finds 30% of £180 = £54, oe (e.g. uses 0.7 x 180) **M1**

£126 cao **A1**

**Answer: £126**

## Question 5

finds the increase = £54 - £40 = £14 and sets up 14/40, oe **M1**

35% increase cao **A1**

**Answer: 35% increase**

## Question 6

correct common denominator 24 with equivalent fractions 15/24 and 4/24 **M1**

19/24 cao **A1**

**Answer: 19/24**

## Question 7

correct common denominator 9, e.g. 7/9 - 6/9 **M1**

1/9 cao **A1**

**Answer: 1/9**

## Question 8

B (10/12) cao **B1**

**Answer: B) 10/12**

## Question 9

0.225 cao **B1**

**Answer: 0.225**

## Question 10

C (0.64) cao **B1**

**Answer: C) 0.64**

## Question 11

B (18) cao **B1**

**Answer: B) 18**

## Question 12

finds the whole number, e.g. 24 / 2 x 9 = 108 **M1**

finds 1/6 of 108, e.g. 108 / 6 = 18 **M1**

90 cao **A1**

**Answer: 90**

## Question 13

5/12 of £480 = £200 **M1**

45% of £200 = £90, oe **M1**

£90 cao **A1**

**Answer: £90**

## Question 14

3/8 of 240 = 90 (tea) **M1**

45% of 240 = 108 (coffee) **M1**

42 cao **A1**

**Answer: 42**

## Question 15

3/4 - 2/5 = 7/20 **M1**

1/3 + 1/6 = 1/2 (oe 3/6) **M1**

7/40 cao **A1**

**Answer: 7/40**


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