PEARSON EDEXCEL INTERNATIONAL GCSE MATHEMATICS A (4MA1) · HIGHER TIER

Fractions and Decimals: exam questions

10 questions · 27 marks · mark schemes at the end

Name _____ Date _____ Score / 27

- Calculators are allowed on both 4MA1 Higher papers (1H and 2H). Show your working: most marks are for method.
- Mark schemes start after the questions. M marks are for a correct method, A marks for an accurate answer that follows a correct method, and B marks for a correct result on its own.
- Online, with more practice: igcsemathrevision.com/igcse-frontend/4ma1/exam-questions/fractions-and-decimals

1. **3 marks**

Work out $2\frac{3}{5} \times 1\frac{7}{8}$. Give your answer as a mixed number in its simplest form.

2. **2 marks**

Show that $3\frac{1}{4} \div 1\frac{5}{8} = 2$.

3. **3 marks**

Work out $4\frac{2}{3} - 2\frac{5}{6}$. Give your answer as a mixed number.

4. **2 marks**

Write these numbers in order of size. Start with the smallest.

$0.62 \quad \frac{5}{8} \quad \frac{13}{20} \quad 0.6$

5. **4 marks**

Sam spends $\frac{2}{5}$ of his money on rent. He spends $\frac{1}{4}$ of what is left on food. He has £540 left.

How much money did Sam have to start with?

6. **2 marks**

(a) Write 0.375 as a fraction in its simplest form. **(1)**

(b) Write $\frac{7}{16}$ as a decimal. **(1)**

7. **3 marks**

A water tank is $\frac{3}{8}$ full. When 55 litres are added it is $\frac{5}{6}$ full.

Work out how many litres the tank holds when full.

8. 3 marks

(a) Work out $\dfrac{\sqrt{18.4}+2.7^2}{3.1\times 0.85}$. Write down all the figures on your calculator display. **(2)**

(b) Write your answer to part (a) correct to 3 significant figures. **(1)**

9. 2 marks

$$\frac{1}{x}=\frac{1}{3}+\frac{1}{5}$$

Find the value of x. Give your answer as a fraction.

10. 3 marks

Show that $1\frac{2}{3}+2\frac{3}{4}=4\frac{5}{12}$.

Answers and worked solutions

Question 1 — 3 marks

M1 $\frac{13}{5}$ and $\frac{15}{8}$

M1 $\frac{13 \times 15}{5 \times 8} = \frac{195}{40}$

A1 $4\frac{7}{8}$

Answer: $4\frac{7}{8}$

Question 2 — 2 marks

M1 $\frac{13}{4} \div \frac{13}{8} = \frac{13}{4} \times \frac{8}{13}$

A1 $\frac{104}{52} = 2$ shown

Answer: shown

Question 3 — 3 marks

M1 $\frac{14}{3}$ and $\frac{17}{6}$

M1 $\frac{28}{6} - \frac{17}{6}$

A1 $\frac{11}{6} = 1\frac{5}{6}$

Answer: $1\frac{5}{6}$

Question 4 — 2 marks

M1 $\frac{5}{8} = 0.625$ and $\frac{13}{20} = 0.65$

A1 $0.6,\ 0.62,\ \frac{5}{8},\ \frac{13}{20}$

Answer: $0.6,\ 0.62,\ \frac{5}{8},\ \frac{13}{20}$

Question 5 — 4 marks

M1 $1 - \frac{2}{5} = \frac{3}{5}$ left after rent

M1 food: $\frac{1}{4} \times \frac{3}{5} = \frac{3}{20}$

M1 $\frac{3}{5} - \frac{3}{20} = \frac{9}{20}$, so $\frac{9}{20}$ of the money is £540

A1 £1200

Answer: £1200

Question 6 — 2 marks

(a)

B1 $\frac{3}{8}$

(b)

B1 0.4375

Answer: (a) $\frac{3}{8}$; (b) 0.4375

Question 7 — 3 marks

M1 $\frac{5}{6} - \frac{3}{8}$

A1 $\frac{11}{24}$ of the tank is 55 litres

A1 $55 \div 11 \times 24 = 120$ litres

Answer: 120 litres

Question 8 — 3 marks

(a)

M1 $4.2895\ldots + 7.29 = 11.5795\ldots$ or $3.1 \times 0.85 = 2.635$

A1 $4.3945\ldots$

(b)

B1 4.39

Answer: (a) 4.394 505 547 …; (b) 4.39

Question 9 — 2 marks

M1 $\frac{1}{3} + \frac{1}{5} = \frac{8}{15}$

A1 $x = \frac{15}{8}$

Answer: $x = \frac{15}{8}$

Question 10 — 3 marks

M1 $\frac{5}{3} + \frac{11}{4} = \frac{20}{12} + \frac{33}{12}$

M1 $\frac{53}{12}$

A1 $4\frac{5}{12}$ shown

Answer: shown

Online, with every solution: igcsemathrevision.com/igcse-frontend/4ma1/exam-questions/fractions-and-decimals
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