Fractions, Decimals and Percentages Exam Practice

Q1. Convert the following to percentages:

a) $\frac{2}{5}$ b) $\frac{126}{200}$

a) 40% b) 63%

Answer: 40%, 63%

(2 marks)

Q2. Convert the following to decimals:

a) $\frac{3}{4}$ b) $2\frac{3}{10}$

a) 75%.

b) 2·3

Answer: 75%, 2·3

(2 marks)

Q3. Convert the following to fractions, simplifying your answers:

a) 0.04 b) 32%

a) $\frac{4}{100}$ $= \frac{1}{25}$

b) $\frac{32}{100}$ $= \frac{8}{25}$

Answer: $\frac{1}{25}$, $\frac{8}{25}$

(2 marks)

Q4. Put the following in order, starting with the smallest. Credit will be given for any appropriate working out.

$\frac{3}{4}$ 1% $\frac{2}{3}$ 0.07 $\frac{5}{8}$

→ 0.75, 0.01, 0.$\dot{6}$, 0.07, 0.625

⇒ 1%, 0.07, $\frac{5}{8}$, $\frac{2}{3}$, $\frac{3}{4}$

Answer: 1%, 0.07, $\frac{5}{8}$, $\frac{2}{3}$, $\frac{3}{4}$

(2 marks)

Q5. Write $\frac{24}{60}$ as:

(i) a percentage (ii) a decimal

(i) $\frac{24}{60} = \frac{4}{10}$

$= \frac{40}{100}$

$= 40\%$

(ii) $\frac{4}{10} = 0.4$

Answer: 40%, 0.4

(2 marks)

Q6. Write 0.0081 as:

(i) a percentage (ii) a fraction

(i) 0.0081×100

$= 0.81\%$

(ii) $\frac{81}{10000}$

Answer: 0.81%, $\frac{81}{10000}$

(2 marks)

Q7. Circle the two numbers between which $\frac{3}{8}$ lies:

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9

$\frac{3}{8} = 0.375$

$\Rightarrow 0.3, 0.4$

Answer: 0.3, 0.4

(1 mark)

Q8. Put the following in order, starting with the largest. Credit will be given for any appropriate working out.

$\frac{9}{12}$ 85% 2.4 $\frac{18}{20}$ 0.65

$\Rightarrow \frac{3}{4}, 0.85, 2.4, \frac{9}{10}, 0.65$

$\Rightarrow 0.75, 0.85, 2.4, 0.9, 0.65$

$\Rightarrow 24, \frac{18}{20}, 85\%, \frac{9}{12}, 0.65$

Answer: 2.4, $\frac{18}{20}$, 85%, $\frac{9}{12}$, 0.65

(2 marks)

Applied Mixed Practice Problems

Q9. Last year, Mark spent 35% of his savings, Tom spent $\frac{2}{5}$ of his savings, whilst David spent $\frac{1}{6}$ of his savings. Who had the least money left? You must explain your choice.

- Mark: 65% left (0.65)
- Tom: $\frac{3}{5}$ left (0.6)
- David: $\frac{5}{6}$ left ($0.8\dot{3}$)

⇒ Tom has the least left

Answer: Tom

(2 marks)

Q10. In a game, the aim is to choose 2 numbers from the list below so that the difference of the numbers is as large as possible. Which two numbers should a player choose?

28% $\quad \frac{1}{8} \quad$ 10% $\quad \frac{10}{15} \quad$ 0.55 $\quad \frac{3}{5}$

0.28, 0.125, 0.1, $0.\dot{6}$ $\left(\frac{10}{15} = \frac{2}{3}\right)$, 0.55, 0.6

- need largest − smallest
- ⇒ use $\frac{10}{15}$, 10%

Answer: $\frac{10}{15}$, 10% _____

(2 marks)

Q11. Find the mistake in Emma's working out, and correct it:

$$\frac{5400}{7500} = \frac{54}{75}$$ ✓

$$= \frac{16}{25}$$ $= \frac{14}{25}$

$$= \frac{64}{100}$$ $= \frac{72}{100}$

$= 64\%$ $= 72\%$

Answer: 72% _____

(2 marks)

Q12. What number is half-way between 0.008 and 2%? You may give your answer as a percentage, decimal or fraction.

0.6%

• So 0.8 + 0.6 = 1.4%

(or $\frac{14}{1000} = \frac{7}{500}$, or 0.014)

Answer: 1.4% _____

(2 marks)

Q13. At an election, the table below show the proportion of people who voted for Party A, Party B and Party C. Work out the % of people who did not vote.

Party	Proportion
A	42%
B	$\frac{7}{20}$
C	0.15

$= \frac{35}{100} = 35\%$

$= 15\%$

Total voted: $42\% + 35\% + 15\% = 92\%$

$\Rightarrow$ 8% did not vote

Answer: 8%

(3 marks)