

Boost Free Lessons - Year 6 Maths

Lesson 12: Fractions, Decimals and Percentages

Name: _____ Grade: _____ Date: _____

Worked Example 1

Write $\frac{3}{4}$ as a decimal and a percentage.

$$\begin{array}{r} 0.75 \\ 4 \overline{) 3.00} \\ \underline{4 } \\ 30 \\ \underline{28} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

$$0.75 = 75\%$$

the decimal point moves 2 places right

1. A fraction is a division. Write 3 as 3.00, and put the point in the answer directly above the one below.
2. 4 into 3 does not go, so write 0 and carry the 3. 4 into 30 goes 7 with 2 over, and 4 into 20 goes 5 exactly.
3. For the percentage, multiply by 100, so the point moves **2 places right**.

$$\frac{3}{4} = 0.75 = 75\%$$

Worked Example 2

Write 40% as a fraction in simplest form and as a decimal.

1. Per cent means **out of 100**, so write it over 100: $\frac{40}{100}$.
2. Simplify by dividing top and bottom by 20: $\frac{2}{5}$.
3. For the decimal, divide by 100 instead: $40 \div 100 = 0.4$.
4. So all three forms describe the same amount.

$$40\% = \frac{2}{5} = 0.4$$

Remember: Fraction → decimal: **divide**. Decimal → percentage: move the point **2 places right**.
Percentage → fraction: put it **over 100** and simplify.



Question 1: Convert between the three forms.

1. Write $\frac{1}{2}$ as a decimal and a percentage.

2. Write $\frac{1}{4}$ as a decimal and a percentage.

3. Write $\frac{1}{5}$ as a decimal and a percentage.

4. Write $\frac{3}{5}$ as a decimal and a percentage.

5. Write 25% as a fraction and a decimal.

6. Write 50% as a fraction and a decimal.

7. Write 0.8 as a fraction and a percentage.

8. Write 0.05 as a fraction and a percentage.



Question 2: Answer the following.

1. Write $\frac{7}{10}$ as a decimal and a percentage.

2. Write $\frac{1}{8}$ as a decimal and a percentage.

3. Write 12% as a fraction in simplest form.

4. Write 0.35 as a fraction in simplest form.

5. Order from smallest: $\frac{1}{2}$, 0.45, 55%

6. Which is larger: $\frac{2}{5}$ or 45%? Show your working.



Question 3: Answer the following questions.

1. A test score was $\frac{17}{20}$. Write this as a percentage.
2. A shirt is reduced by 25%. Write this as a fraction in simplest form.
3. Of a class, $\frac{3}{5}$ walk to school. What percentage is this?
4. A survey found 0.7 of people preferred cricket. Write this as a percentage.
5. Explain why $\frac{1}{3}$ does not give an exact decimal.





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Answers: Fractions, Decimals and Percentages**Question 1**

1. 0.5 and 50%
2. 0.25 and 25%
3. 0.2 and 20%
4. 0.6 and 60%
5. $\frac{1}{4}$ and 0.25
6. $\frac{1}{2}$ and 0.5
7. $\frac{4}{5}$ and 80%
8. $\frac{1}{20}$ and 5%

Question 2

1. 0.7 and 70%
2. 0.125 and 12.5%
3. $\frac{3}{25}$
4. $\frac{7}{20}$
5. 0.45, $\frac{1}{2}$, 55%
6. 45%, because $\frac{2}{5} = 40\%$

Question 3

1. 85%
2. $\frac{1}{4}$
3. 60%
4. 70%
5. $1 \div 3$ gives 0.333... which never ends, so it can only be written exactly as a fraction.

