

SIMPLIFYING FRACTIONS

To find the **simplest form** of a fraction, divide both the numerator and denominator by the greatest common factor.

Step 1

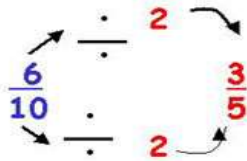
Find the **common factors** of the numerator and denominator.

Factors of 6: 1, 2, 3, 6

Factors of 10: 1, 2, 5, 10

The **greatest common factor** is 2.

Simplify $\frac{6}{10}$



Step 2

Divide the numerator and denominator by the **greatest common factor**.

Exercise 1 - 20.04.2020

Copy the question into your workbook and WORK OUT the answers.

Divide the numerator and denominator of these fractions by the highest common factor to get their simplest form.

1) $\frac{12}{15} = \frac{\quad}{\quad}$ 2) $\frac{18}{20} = \frac{\quad}{\quad}$ 3) $\frac{15}{35} = \frac{3}{\quad}$ 4) $\frac{28}{49} = \frac{4}{\quad}$

5) $\frac{15}{24} = \frac{\quad}{\quad}$ 6) $\frac{6}{15} = \frac{\quad}{\quad}$ 7) $\frac{20}{36} = \frac{\quad}{\quad}$ 8) $\frac{6}{42} = \frac{\quad}{\quad}$

9) $\frac{21}{54} = \frac{\quad}{\quad}$ 10) $\frac{18}{63} = \frac{\quad}{\quad}$ 11) $\frac{33}{45} = \frac{\quad}{\quad}$ 12) $\frac{18}{12} = \frac{\quad}{\quad}$

13) $\frac{21}{14} = \frac{\quad}{\quad}$ 14) $\frac{35}{20} = \frac{\quad}{\quad}$ 15) $\frac{8}{13} = \frac{\quad}{\quad}$ 16) $\frac{60}{24} = \frac{\quad}{\quad}$

17) $\frac{45}{27} = \frac{\quad}{\quad}$ 18) $\frac{77}{44} = \frac{\quad}{\quad}$ 19) $\frac{42}{16} = \frac{\quad}{\quad}$ 20) $\frac{13}{65} = \frac{\quad}{\quad}$

21) $\frac{51}{27} = \frac{\quad}{\quad}$ 22) $\frac{19}{12} = \frac{\quad}{\quad}$ 23) $\frac{63}{42} = \frac{\quad}{\quad}$ 24) $\frac{72}{16} = \frac{\quad}{\quad}$

25) $\frac{54}{18} = \frac{\quad}{\quad}$ 26) $\frac{81}{36} = \frac{\quad}{\quad}$ 27) $\frac{42}{15} = \frac{\quad}{\quad}$ 28) $\frac{55}{35} = \frac{\quad}{\quad}$

Converting Mixed Numbers to Improper Fractions

Multiply the whole number by the denominator and add the numerator.

Keep the same denominator.

Then add.

$$4 \frac{1}{3} = \frac{13}{3}$$

Multiply.

Exercise 2 - 21.04.2020

Copy the question into your workbook and WORK OUT the answers

- | | | | |
|---|---|---|---|
| 1) $3 \frac{2}{3} = \underline{\hspace{1cm}}$ | 2) $4 \frac{1}{4} = \underline{\hspace{1cm}}$ | 3) $2 \frac{3}{7} = \underline{\hspace{1cm}}$ | 4) $9 \frac{1}{2} = \underline{\hspace{1cm}}$ |
| 5) $5 \frac{3}{4} = \underline{\hspace{1cm}}$ | 6) $7 \frac{1}{5} = \underline{\hspace{1cm}}$ | 7) $4 \frac{5}{6} = \underline{\hspace{1cm}}$ | 8) $2 \frac{6}{9} = \underline{\hspace{1cm}}$ |
| 9) $3 \frac{9}{10} = \underline{\hspace{1cm}}$ | 10) $6 \frac{5}{7} = \underline{\hspace{1cm}}$ | 11) $8 \frac{3}{10} = \underline{\hspace{1cm}}$ | 12) $4 \frac{7}{8} = \underline{\hspace{1cm}}$ |
| 13) $9 \frac{5}{8} = \underline{\hspace{1cm}}$ | 14) $3 \frac{4}{15} = \underline{\hspace{1cm}}$ | 15) $11 \frac{2}{3} = \underline{\hspace{1cm}}$ | 16) $7 \frac{4}{6} = \underline{\hspace{1cm}}$ |
| 17) $6 \frac{2}{11} = \underline{\hspace{1cm}}$ | 18) $12 \frac{3}{4} = \underline{\hspace{1cm}}$ | 19) $14 \frac{2}{5} = \underline{\hspace{1cm}}$ | 20) $8 \frac{4}{9} = \underline{\hspace{1cm}}$ |
| 21) $7 \frac{3}{12} = \underline{\hspace{1cm}}$ | 22) $23 \frac{1}{3} = \underline{\hspace{1cm}}$ | 23) $11 \frac{5}{8} = \underline{\hspace{1cm}}$ | 24) $4 \frac{3}{14} = \underline{\hspace{1cm}}$ |
| 25) $20 \frac{3}{4} = \underline{\hspace{1cm}}$ | 26) $12 \frac{3}{6} = \underline{\hspace{1cm}}$ | 27) $30 \frac{2}{3} = \underline{\hspace{1cm}}$ | 28) $9 \frac{2}{7} = \underline{\hspace{1cm}}$ |
| 29) $6 \frac{9}{10} = \underline{\hspace{1cm}}$ | 30) $25 \frac{2}{3} = \underline{\hspace{1cm}}$ | 31) $16 \frac{4}{5} = \underline{\hspace{1cm}}$ | 32) $8 \frac{6}{11} = \underline{\hspace{1cm}}$ |

Adding and Subtracting Fractions with different denominators

$$\frac{3}{5} + \frac{2}{3}$$

Step 1 : Find the Lowest Common Denominator (LCD)

$$M_5 = \{ 5, 10, \underline{15}, 20, 25 \}$$

$$M_3 = \{ 3, 6, 9, 12, \underline{15} \}$$

$$= \frac{3 \times 3}{5 \times 3} + \frac{2 \times 5}{3 \times 5}$$

Step 2: Multiply the numerator and denominator by the same number.

$$= \frac{9+10}{15}$$

Step 3: Add the numerators together.
You can leave your answer as an improper fraction.

$$= \frac{19}{15}$$

The same rules apply for subtracting fractions. Instead of adding the numerators, you subtract them.

Complete the following exercises (SHOW ALL CALCULATIONS)

22.04.2020

Exercise 3

1) $\frac{4}{5} + \frac{1}{3} =$

2) $\frac{1}{2} + \frac{2}{4} =$

3) $\frac{2}{5} + \frac{1}{4} =$

4) $\frac{3}{10} + \frac{1}{5} =$

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

6) $\frac{1}{2} + \frac{2}{4} =$

Exercise 4

1) $\frac{2}{3} - \frac{2}{10} =$

2) $\frac{3}{5} - \frac{1}{3} =$

3) $\frac{3}{5} - \frac{1}{3} =$

4) $\frac{4}{5} - \frac{2}{4} =$

5) $\frac{2}{3} - \frac{1}{4} =$

6) $\frac{3}{5} - \frac{1}{4} =$

Addition and Subtraction of Mixed Numbers

$$1\frac{3}{5} + 2\frac{2}{3}$$

Step 1: Convert the mix number to an improper fraction

$$= \frac{8}{5} + \frac{8}{3}$$

Step 2 : Find the Lowest Common Denominator (LCD)

$$M_5 = \{5, 10, \underline{15}, 20, 25\}$$

$$M_3 = \{3, 6, 9, 12, \underline{15}\}$$

$$= \frac{8 \times 3}{5 \times 3} + \frac{8 \times 5}{3 \times 5}$$

Step 3: Multiply the numerator and denominator by the same number.

$$= \frac{24+40}{5}$$
$$= \frac{64}{5}$$

Step 4: Add the numerators together. You can leave your answer as an improper fraction.

The same rules apply for subtracting fractions. Instead of adding the numerators, you subtract them.

Complete the following exercises in your book (SHOW ALL CALCULATIONS)

Exercise 5 - 23.04.2020

1. $3\frac{1}{4} + 3\frac{5}{8} =$ _____

2. $9\frac{9}{10} + 2\frac{3}{5} =$ _____

3. $3\frac{5}{11} + 7\frac{2}{3} =$ _____

4. $5\frac{2}{8} + 2\frac{4}{10} =$ _____

5. $8\frac{7}{9} + 5\frac{9}{11} =$ _____

6. $6\frac{2}{7} + 7\frac{1}{2} =$ _____

Exercise 6

1) $4\frac{1}{2} - 2\frac{2}{6} =$

2) $6\frac{8}{9} - 5\frac{2}{3} =$

3) $8\frac{4}{5} - 3\frac{6}{10} =$

4) $9\frac{5}{6} - 4\frac{1}{4} =$

5) $2\frac{7}{8} - 1\frac{1}{2} =$

6) $7\frac{2}{3} - 6\frac{3}{5} =$