# **Common fractions**

### **Calculations : addition and subtraction**

#### Examples

1. Calculate  $\frac{4}{5} + \frac{1}{5}$ . Answer: The fractions have the same denominator. Therefore add the numerators and keep the common denominator.  $\frac{4}{5} + \frac{1}{5} = \frac{5}{5} = 1$  2. Calculate  $\frac{1}{4} + \frac{3}{8}$ . Answer:

One denominator (8) is a multiple of the other (4). Add the numerators and keep the common denominator.

$$\frac{L}{4} = \frac{2}{8}$$
$$\frac{L}{4} + \frac{3}{8} = \frac{2}{8} + \frac{3}{8} = \frac{5}{8}$$

**1.** Calculate.

a)	$\frac{2}{3} + \frac{1}{3}$	<b>b</b> )	$\frac{3}{5} + \frac{1}{5}$	<b>c)</b> $\frac{4}{5} + \frac{5}{10}$	<b>d)</b> $\frac{3}{8} + \frac{1}{4}$
e)	$\frac{5}{6} - \frac{4}{6}$	<b>f</b> ) -	$\frac{6}{10} - \frac{2}{5}$	<b>g</b> ) $\frac{4}{7} - \frac{3}{14}$	<b>h</b> ) $\frac{5}{6} - \frac{1}{3}$

- 2. Calculate and write your answer in its simplest form.
  - **a)**  $2\frac{3}{4} + 1\frac{1}{4}$  **b)**  $5\frac{2}{5} + \frac{1}{5}$  **d)**  $2\frac{1}{5} - \frac{1}{5}$ **e)**  $4\frac{2}{5} - \frac{4}{5}$

#### **3.** Calculate and write your answer in its simplest form.

a)	$\frac{1}{5} + \frac{2}{3}$	<b>b)</b> $\frac{3}{5} + \frac{3}{4}$	
c)	$\frac{2}{3} - \frac{1}{5}$	<b>d</b> ) $\frac{2}{7} - \frac{1}{8}$	
e)	$3\frac{4}{5} + 2\frac{1}{7}$	<b>f)</b> $4\frac{1}{3} + \frac{2}{3}$	
g)	$6\frac{4}{5} - \frac{5}{6}$	<b>h</b> ) $7\frac{1}{3} - \frac{8}{9}$	



If the denominators are different and are not multiples of one another then we need to first find the LCD, then convert the fractions, add or subtract the numerators, and keep the common denominator.

- **4.** Work out the following.
  - a) John and Ian are taking part in a Comrades Marathon. John covers  $\frac{2}{5}$  of the race and Ian covers  $\frac{9}{12}$  of the race. Who ran the longer distance?
  - **b)** Sindi spends  $\frac{2}{5}$  of her money on clothes,  $\frac{1}{3}$  on groceries and  $\frac{1}{6}$  on transport.
    - i) What fraction of Sindi's money is spent on clothes, groceries and transport?
    - ii) What fraction of Sindi's money is spent on groceries and transport?
    - **iii)** What fraction of money can Sindi save?



## **Common fractions**

### **Calculations : multiplication**

Examples

1. Calculate $\frac{1}{3} \times \frac{3}{5}$ .
Answer:
When multiplying fractions, no matter what
the denominators are, multiply the
numerators and multiply the denominators. $\frac{1}{3} \times \frac{3}{5} = \frac{3}{15}$

2. Calculate  $2\frac{1}{5} \times \frac{1}{4}$ . Answer:

When multiplying mixed numbers, first convert the number to an improper fraction and then multiply the numerators and denominators.

$$2\frac{1}{5} \times \frac{1}{4} = \frac{11}{5} \times \frac{1}{4} = \frac{11}{20}$$

**1.** Calculate.

<b>a)</b> $\frac{2}{3} \times \frac{1}{3}$ <b>b)</b> $\frac{3}{5} \times \frac{1}{5}$ <b>c)</b> $\frac{4}{5} \times \frac{3}{10}$ <b>d)</b> $\frac{3}{8} \times \frac{1}{4}$	<b>c)</b> $\frac{4}{5} \times \frac{5}{10}$ <b>d)</b> $\frac{3}{8} \times \frac{1}{4}$	<b>b</b> ) $\frac{3}{5} \times \frac{1}{5}$	<b>a)</b> $\frac{2}{3} \times \frac{1}{3}$
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**2.** Calculate and write your answer in its simplest form.

a)	$2\frac{3}{4} \times 1\frac{1}{4}$	<b>b)</b> $5\frac{2}{5} \times \frac{1}{3}$	<b>c)</b> $3\frac{1}{3} \times 2\frac{2}{5}$
d)	$2\frac{1}{5} \times \frac{1}{5}$	<b>e)</b> $4\frac{2}{5} \times \frac{4}{5}$	<b>f</b> ) $6\frac{2}{3} \times 4\frac{5}{6}$

**3.** Calculate and write your answer in its simplest form.

a)	$\frac{1}{5}$ of $\frac{2}{3}$	<b>b</b> ) $\frac{3}{5}$ of $\frac{3}{4}$	<b>c)</b> $\frac{2}{3}$ of $\frac{1}{15}$
d)	$\frac{2}{7}$ of 28	<b>e)</b> $\frac{3}{4}$ of $2\frac{1}{2}$	<b>f</b> ) $\frac{1}{8}$ of $3\frac{2}{3}$

- **4.** Pam spends  $\frac{2}{5}$  of her money on clothes,  $\frac{1}{3}$  on groceries and  $\frac{1}{6}$  on transport. Craig spends a third of what Pam spends on clothes. Craig earns only a quarter of what Pam earns. Pam earns R30 000 a month.
  - a) What fraction of her money does Pam spend on clothes, groceries and transport?
  - **b)** What fraction of his money does Craig spend on clothes?
  - c) How much does Craig earn per month?