

# IGCSE Fractions and Algebraic

1. Write as a single fraction in its simplest form

$$\frac{x}{3} + \frac{x-1}{2}$$

*Answer* ..... [2]

2. Write as a single fraction  $\frac{3a}{8} + \frac{4}{5}$ .

*Answer* ..... [2]

3. Write the following as a single fraction in its simplest form.

$$\frac{x+1}{x+5} - \frac{x}{x+1}$$

*Answer* ..... [4]

4. Write  $\frac{2}{x-2} + \frac{3}{x+2}$  as a single fraction.

Give your answer in its simplest form.

*Answer* ..... [3]

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5. **Without using your calculator**, work out  $1\frac{5}{6} + \frac{9}{10}$ .

**You must show your working** and give your answer as a mixed number in its simplest form.

*Answer* ..... [3]

6. 
$$1\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = \frac{p}{12}$$

Work out the value of  $p$ .

**Show all your working.**

*Answer*  $p =$  ..... [2]

7. Write down all the working to show that  $\frac{\frac{3}{5} + \frac{2}{3}}{\frac{3}{5} \times \frac{2}{3}} = 3\frac{1}{6}$ .

*Answer*

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8. **Without using your calculator**, work out the following.  
**Show all the steps of your working** and give each answer as a fraction in its simplest form.

(a)  $\frac{11}{12} - \frac{1}{3}$

*Answer(a)* ..... [2]

(b)  $\frac{1}{4} \div \frac{11}{13}$

*Answer(b)* ..... [2]

9. Jiwan incorrectly wrote  $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} = 1\frac{3}{9}$ .

Show the correct working and write down the answer as a mixed number.

*Answer* ..... [3]

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10. Write as a single fraction in its simplest form.

$$\frac{3}{x+10} - \frac{1}{x+4}$$

*Answer* ..... [3]

11. Write as a single fraction, in its simplest form.

$$\frac{1-x}{x} - \frac{2+x}{1-2x}$$

*Answer* ..... [4]

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12. Write down all your working to show that the following statement is correct.

$$\frac{1 + \frac{8}{9}}{2 + \frac{1}{2}} = \frac{34}{45}$$

*Answer*

[2]

13. Write the following as a single fraction in its simplest form.

$$\frac{x+2}{3} - \frac{2x-1}{4} + 1$$

*Answer* ..... [3]

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14. Write as a single fraction in its simplest form.

$$\frac{2}{x} + \frac{1}{2x} + \frac{1}{2}$$

*Answer*

[2]

15. Show that  $\frac{7}{27} + 1\frac{7}{9} = 2\frac{1}{27}$ .

Write down all the steps in your working.

*Answer*

[2]

16. Write as a single fraction, in its simplest form.

$$\frac{3}{x+2} - \frac{2}{x-1}$$

*Answer*

[3]

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17. (a) Write  $\frac{1}{y} - \frac{2}{x}$  as a single fraction in its lowest terms.

*Answer(a)*

[2]

- (b) Write  $\frac{x^2 + x}{3x + 3}$  in its lowest terms.

*Answer(b)*

[3]