

Name: _____

Exam Style Questions

Equations involving fractions



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

Secondary

Video 111



1. Solve

$$\frac{x}{4} = 8$$

$$x = \overset{32}{\dots\dots\dots} \quad (1)$$

2. Solve

$$\frac{y}{5} = 5$$

$$y = \overset{25}{\dots\dots\dots} \quad (1)$$

3. Solve

$$\frac{w+3}{4} = 2$$

$$w+3 = 8$$

$$w = \overset{5}{\dots\dots\dots} \quad (2)$$

4. Solve

$$\frac{2a}{3} = 8$$

$$2a = 24$$

$$a = \underline{12} \quad (2)$$

5. Solve

$$\frac{10x - 1}{7} = 8$$

$$10x - 1 = 56$$

$$10x = 57$$

$$x = \underline{5.7} \quad (3)$$

6. Solve

$$\frac{7c + 4}{8} = 11$$

$$7c + 4 = 88$$

$$7c = 84$$

$$c = \underline{12} \quad (3)$$

7. Solve

$$\frac{53 - 2x}{5} = 7$$

$$\begin{aligned}53 - 2x &= 35 \\53 &= 35 + 2x \\18 &= 2x\end{aligned}$$

$$x = \underline{9} \quad (3)$$

8. Solve

$$\frac{11 - w}{5} = 3 + w$$

$$\begin{aligned}11 - w &= 15 + 5w \\11 &= 15 + 6w \\-4 &= 6w\end{aligned}$$

$$w = -\frac{4}{6} \quad -\frac{2}{3}$$

$$w = \underline{-\frac{2}{3}} \quad (3)$$

9. Solve

$$\frac{9(4x - 1)}{2x} = 15$$

$$\begin{aligned}9(4x - 1) &= 30x \\36x - 9 &= 30x \\6x &= 9 \quad x = \frac{9}{6} = \frac{3}{2}\end{aligned}$$

$$x = \underline{1.5 \text{ or } \frac{3}{2}} \quad (3)$$

10. Solve

$$\frac{w+7}{4} + \frac{3w+1}{2} = -3$$

You must show your working.

$$\frac{w+7}{4} + \frac{6w+2}{4} = -3$$

$$\frac{7w+9}{4} = -3$$

$$7w+9 = -12$$

$$7w = -21$$

$$w = \frac{-3}{1} \dots\dots\dots (4)$$

11. Solve

$$\frac{2x-6}{2} + \frac{x+1}{5} = 8$$

You must show your working.

$$\frac{10x-30}{10} + \frac{2x+2}{10} = 8$$

$$\frac{12x-28}{10} = 8$$

$$12x-28 = 80$$

$$12x = 108$$

$$x = \frac{9}{1} \dots\dots\dots (4)$$

12. Solve

$$\frac{m+6}{2} - \frac{2m-2}{3} = 3$$

You must show your working.

$$\frac{3m+18}{6} - \frac{4m-4}{6} = 3$$

$$\frac{-m+22}{6} = 3$$

$$-m+22 = 18$$

$$-m = -4$$

$$m = \frac{4}{\dots\dots\dots} \quad (4)$$

13. Solve

$$\frac{4k-5}{7} - \frac{k+2}{2} = -1$$

You must show your working.

$$\frac{8k-10}{14} - \frac{7k+14}{14} = -1$$

$$\frac{k-24}{14} = -1$$

$$k-24 = -14$$

$$k = \frac{10}{\dots\dots\dots} \quad (4)$$

14. Solve

$$\frac{10x - 3}{3} + \frac{5x + 2}{4} = 5$$

You must show your working.

$$\frac{40x - 12}{12} + \frac{15x + 6}{12} = 5$$

$$\frac{55x - 6}{12} = 5$$

$$55x - 6 = 60$$

$$55x = 66$$

$$x = \frac{66}{55} = \frac{6}{5}$$

$$k = \frac{1.2 \text{ or } \frac{6}{5}}{(4)}$$