

Equations with fractions - Worksheet

Skill

Group A - Equations with one operation

Solve:

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

2) $\frac{x}{2} = 7$

3) $\frac{x}{2} = 11$

4) $\frac{x}{5} = 3$

5) $\frac{x}{5} = 6$

6) $\frac{x}{5} = 8$

7) $\frac{x}{2} = 5$

8) $\frac{x}{7} = 5$

9) $\frac{x}{9} = 5$

10) $\frac{x}{3} = 9$

11) $\frac{x}{4} = 9$

12) $\frac{x}{7} = 9$

Group B - Equations with two operations

Solve:

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

2) $\frac{x-2}{4} = 7$

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

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

5) $\frac{x}{3} + 1 = 6$

6) $\frac{x}{3} + 1 = 8$

7) $\frac{x+3}{2} = 4$

8) $\frac{x+3}{5} = 4$

9) $\frac{x+3}{9} = 4$

10) $\frac{2x}{3} = 4$

11) $\frac{2x}{5} = 4$

12) $\frac{2x}{9} = 4$

Equations with fractions - Worksheet

Group C - Equations with the unknown as the denominator

Solve:

1) $\frac{12}{x} = 2$

2) $\frac{12}{x} = 3$

3) $\frac{12}{x} = 6$

4) $\frac{15}{x} = 5$

5) $\frac{40}{x} = 5$

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

7) $\frac{24}{x} = 8$

8) $\frac{24}{x} = 12$

9) $\frac{24}{x} = 1$

10) $\frac{18}{x} = 9$

11) $\frac{45}{x} = 9$

12) $\frac{63}{x} = 9$

Equations with fractions - Worksheet

Applied

1) Solve:

(a) $\frac{y+4}{5} = 6$

(b) $\frac{y}{6} - 3 = 7$

2) Solve:

(a) $\frac{2x-4}{6} = 3$

(b) $\frac{2x}{5} + 3 = 7$

3) (a) Here are 5 numbers:

6 9 3 5 x

The mean of the 5 numbers is 6. What is the value of x ?

(b) Here are 7 numbers:

13 17 13 19 11 y y

The mean of the 7 numbers is 15. What is the value of y ?

4) Solve:

(a) $\frac{27}{x} + 1 = 10$

(b) $\frac{42}{x} - 5 = 2$

Equations with fractions - Exam Questions

1) Solve: $\frac{y}{4} = 5.2$
(1 mark)

2) Solve: $\frac{a+2}{3} = 5$
(2 marks)

3) Solve: $\frac{3x+6}{7} = 3$
(3 marks)

Equations with fractions - Answers

	Question	Answer
Group A	Skill Questions	
	Solve: 1) $\frac{x}{2} = 4$ 2) $\frac{x}{2} = 7$ 3) $\frac{x}{2} = 11$ 4) $\frac{x}{5} = 3$ 5) $\frac{x}{5} = 6$ 6) $\frac{x}{5} = 8$ 7) $\frac{x}{2} = 5$ 8) $\frac{x}{7} = 5$ 9) $\frac{x}{9} = 5$ 10) $\frac{x}{3} = 9$ 11) $\frac{x}{4} = 9$ 12) $\frac{x}{7} = 9$	1) $x = 8$ 2) $x = 14$ 3) $x = 22$ 4) $x = 15$ 5) $x = 30$ 6) $x = 40$ 7) $x = 10$ 8) $x = 35$ 9) $x = 45$ 10) $x = 27$ 11) $x = 36$ 12) $x = 63$
Group B	Solve: 1) $\frac{x-2}{4} = 5$ 2) $\frac{x-2}{4} = 7$ 3) $\frac{x-2}{4} = 10$	1) $x = 22$ 2) $x = 30$ 3) $x = 42$

Equations with fractions - Answers

4) $\frac{x}{3} + 1 = 4$	4) $x = 9$
5) $\frac{x}{3} + 1 = 6$	5) $x = 15$
6) $\frac{x}{3} + 1 = 8$	6) $x = 21$
7) $\frac{x+3}{2} = 4$	7) $x = 5$
8) $\frac{x+3}{5} = 4$	8) $x = 17$
9) $\frac{x+3}{9} = 4$	9) $x = 33$
10) $\frac{2x}{3} = 4$	10) $x = 6$
11) $\frac{2x}{5} = 4$	11) $x = 10$
12) $\frac{2x}{9} = 4$	12) $x = 18$

Equations with fractions - Answers

	Question	Answer
Group C	Skill Questions	
	Solve: 1) $\frac{12}{x} = 2$ 2) $\frac{12}{x} = 3$ 3) $\frac{12}{x} = 6$ 4) $\frac{15}{x} = 5$ 5) $\frac{40}{x} = 5$ 6) $\frac{55}{x} = 5$ 7) $\frac{24}{x} = 8$ 8) $\frac{24}{x} = 12$ 9) $\frac{24}{x} = 1$ 10) $\frac{18}{x} = 9$ 11) $\frac{45}{x} = 9$ 12) $\frac{63}{x} = 9$	1) $x = 6$ 2) $x = 4$ 3) $x = 2$ 4) $x = 3$ 5) $x = 8$ 6) $x = 11$ 7) $x = 3$ 8) $x = 2$ 9) $x = 24$ 10) $x = 2$ 11) $x = 5$ 12) $x = 7$

Equations with fractions - Answers

	Question	Answer
	Applied Questions	
1)	<p>Solve:</p> <p>(a) $\frac{y+4}{5} = 6$</p> <p>(b) $\frac{y}{6} - 3 = 7$</p>	<p>(a) $y = 26$</p> <p>(b) $y = 60$</p>
2)	<p>Solve:</p> <p>(a) $\frac{2x-4}{6} = 3$</p> <p>(b) $\frac{2x}{5} + 3 = 7$</p>	<p>(a) $x = 11$</p> <p>(b) $x = 10$</p>
3)	<p>Here are 5 numbers:</p> <p>(a) 6 9 3 5 x The mean of the 5 numbers is 6. What is the value of x?</p> <p>Here are 7 numbers:</p> <p>(b) 13 17 13 19 11 y y The mean of the 7 numbers is 15. What is the value of y?</p>	<p>(a) $x = 7$</p> <p>(b) $y = 16$</p>
4)	<p>(a) Solve:</p> <p>$\frac{27}{x} + 1 = 10$</p> <p>(b) $\frac{42}{x} - 5 = 2$</p>	<p>(a) $x = 3$</p> <p>(b) $x = 6$</p>

Equations with fractions - Mark Scheme

	Question	Answer	
	Exam Questions		
1)	Solve: $\frac{y}{4} = 5.2$	$y = 20.8$	(1)
2)	Solve: $\frac{a+2}{3} = 5$	$a + 2 = 15$ $a = 13$	(2)
3)	Solve: $\frac{3x+6}{7} = 3$	$3x + 6 = 21$ $3x = 15$ $x = 5$	(3)

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