

Solving Equations... In Class Worksheet

Answers

1. $x=36$ 2. $n=11$ 3. $n=13$ 4. $y=23$ 5. $x=3$
 6. $x=-3$ 7. $y=52$ 8. $w=90$ 9. $t=3/2$ 10. $a=7/3$
 11. $y=21$ 12. $c=-1$ 13. $x=1$ 14. $y=10$ 15. $y=9$
 16. $x=-7$ 17. $x=8$ 18. $n=16$ 19. $y=12$ 20. $y=29$
 21. $p=18$ 22. $n=-8.5$ 23. $x=4$ 24. $a=-26$ 25. $c=-75$

10. $3(a-4) = -5$

$$3a - 12 = -5$$

$$\frac{3a}{3} = \frac{7}{3}$$

$$a = \frac{7}{3}$$

$$\frac{3(a-4) = -5}{3} = \frac{-5}{3}$$

$$a-4 = \frac{-5}{3} + 4$$

$$a = \frac{-5}{3} + 4$$

$$a = \frac{-5}{3} + \frac{12}{3}$$

$$a = \frac{7}{3}$$

11. $\frac{2}{3}y - 6 = 8$

$$\frac{2}{3} \cdot \frac{3}{2} y = 14 \cdot \frac{3}{2}$$

$$y = \frac{42}{2}$$

$$y = 21$$

12. $7c - 3(c-4) = 8$

$$7c - 3c + 12 = 8$$

$$4c + 12 = 8$$

$$\frac{4c}{4} = \frac{-4}{4}$$

$$\boxed{c = -1}$$

Ratio + Proportion

Ratio ~ a comparison of two or more numbers

Ex. In Mr Levy's class there are 10 girls and 14 boys. The ratio of the girls to boys is:

$$10:14 \quad \frac{10}{14} = \frac{5}{7}$$

The ratio of girls to the total students:

$$10:24 \quad \frac{10}{24} = \frac{5}{12}$$

Proportion - an equation with a ratio on either side

$$\frac{3}{4} = \frac{6}{8} \quad \frac{1}{2} = \frac{x}{10} \quad x = 5$$

We can use ratio + proportion to solve certain problems.

Ex. If the ratio of girls to boys in a certain school is 7:9 and there are 523 girls, how many boys are there?

$$\frac{7}{9} = \frac{523}{b}$$

$$7b = 9(523)$$

$$\frac{7b}{7} = \frac{4707}{7}$$

$$b \approx 672$$

↑ your answer has been rounded