

Algebra Review Walkthrough

1. $\frac{3+(13-3^2)}{(4)(6-3)(5+2^2)} = \frac{3+(13-9)}{(4)(3)(5+4)} = \frac{3+4}{(12)(9)} = \frac{7}{108} = 0.06$

2. $\frac{1}{10} + \frac{5}{17} + \left(\frac{6}{23}\right)\left(\frac{5}{11}\right) = 0.1 + 0.294 + (0.261)(0.455) = 0.394 + 0.119 = 0.51$

3. $\left(\frac{15}{27}\right)\left(\frac{3^2}{13^2}\right) = \left(\frac{15}{27}\right)\left(\frac{9}{169}\right) = \frac{135}{4,563} = 0.03$

4. $13 + (-7) + 14 + (-3^2) = 6 + 14 + 9 = 29$

5. $15 - (-10) = 15 + 10 = 25$

6. $|-27| = 27$

7. $(-11)^2 = 121$

8. $(-10)(13) = -130$

9. $\frac{10\sqrt{5}}{\sqrt{\frac{275}{12} - 4^2}} = \frac{(10)(2.236)}{\sqrt{22.917 - 16}} = \frac{22.36}{\sqrt{6.917}} = \frac{22.36}{2.63} = 8.50$

10. $\frac{(8)(7^2) + \frac{1}{3}(7 + 6^2)}{(10 + 11 - 2)(6 - 3)} = \frac{(8)(49) + \frac{1}{3}(7 + 36)}{(19)(3)} = \frac{392 + \frac{43}{3}}{57} = \frac{392 + 14.333}{57} = \frac{406.333}{57} = 7.13$

11. $\frac{17}{10-15} = \frac{17}{-5} = -3.4$

12. $\frac{3X+14}{5} = 10$

$5\left(\frac{3X+14}{5}\right) = 10(5)$ Multiply both sides by 5.

$3X + 14 = 50$

$3X + 14 - 14 = 50 - 14$ Add -14 to both sides.

$3X = 36$

$\frac{3X}{3} = \frac{36}{3}$

Divide both sides by 3.

$X = 12$

13. $\frac{2}{3}X - 3 = 11$

$\frac{2}{3}X - 3 + 3 = 11 + 3$ Add 3 to both sides.

$\frac{2}{3}X = 14$

$\frac{3}{2}\left(\frac{2}{3}X\right) = 14\left(\frac{3}{2}\right)$ Multiply both sides by $\frac{3}{2}$.

$X = \frac{42}{2} = 21$

14. $\frac{3(X+2)}{7} = 6$

$(7)\left[\frac{3(X+2)}{7}\right] = (6)(7)$ Multiply both sides by 7.

$3(X+2) = 42$

$\frac{3(X+2)}{3} = \frac{42}{3}$ Divide both sides by 3.

$X + 2 = 14$

$X + 2 - 2 = 14 - 2$ Add -2 to both sides.

$X = 12$

15. $7X - 15 = -1$

$7X - 15 + 15 = -1 + 15$ Add 15 to both sides.

$7X = 14$

$\frac{7X}{7} = \frac{14}{7}$ Divide both sides by 7.

$X = 2$