



6. Simplify: $\left(\frac{2u^{-5}v^2}{8w}\right)^{-2}$

a) $\frac{w^2v^4}{4u^7}$

b) $\frac{16v^4}{w^2u^{10}}$

c) $\frac{16w^2u^{10}}{v^4}$

d) $\frac{u^7v^4}{4w^2}$

$$\left(\frac{\cancel{2}u^{-5}v^2}{\cancel{8}w}\right)^{-2} = \left(\frac{4wu^5}{v^2}\right)^{-2} = \frac{16w^2u^{10}}{v^4}$$

10. Solve: $8(x-2) - 5(x+4) = 20 + x$

a) $x = 9$

b) $x = 28$

c) $x = -8$

d) $x = -18$

$$8x - 16 - 5x - 20 = 20 + x \quad 2x = 56$$

$$\begin{array}{r} 3x - 36 = x + 20 \\ -x \qquad \qquad -x \\ \hline \end{array}$$

$$x = 28$$

$$2x - 36 = 20$$

14. Solve: $2|x-3|=5$

a) $x = 4, 0$

b) $x = \frac{1}{2}, \frac{11}{2}$

c) $x = 0, \frac{11}{2}$

d) $x = -\frac{1}{2}, -\frac{11}{2}$

$$\begin{array}{l} |x-3| = \frac{5}{2} \\ \swarrow \quad \searrow \\ x-3 = \frac{5}{2} \qquad x-3 = -\frac{5}{2} \\ \begin{array}{r} +3 \quad +3 \\ \hline x = \frac{11}{2} \end{array} \qquad \begin{array}{r} +3 \quad +3 \\ \hline x = \frac{1}{2} \end{array} \end{array}$$

$$\frac{3}{3} |x+2| = \frac{15}{3}$$

$$|x+2| = 5$$

$$\begin{array}{r} x+2=5 \\ -2 \quad -2 \\ \hline x=3 \end{array}$$

$$\begin{array}{r} x+2=-5 \\ -2 \quad -2 \\ \hline x=-7 \end{array}$$

18. Solve: $-3(2x - 3) \leq 27$

a) $x \leq -6$

b) $x \geq -6$

c) $x \geq -3$

d) $x \leq -3$

$$\begin{array}{r} -6x + 9 \leq 27 \\ \underline{-9 \quad -9} \\ -6x \leq 18 \\ x \geq -3 \end{array}$$

20. John averaged 82 out of 100 on his first three tests. What was John's score on the fourth test if his average after the fourth test dropped to 79 out of 100?

a) Cannot be found

b) 80

c) 75

d) 70

$$\begin{aligned} \text{Sum}_{\textcircled{3}} &= 3 \cdot 82 \\ &= 246 \end{aligned}$$

$$\begin{aligned} \text{Sum}_{\textcircled{4}} &= 4(79) \\ &= 316 \end{aligned}$$

$$\begin{aligned} 316 - 246 \\ &= \textcircled{70} \end{aligned}$$

21. The sales tax rate in Wilson County is 6.75%. Suppose total price of an item that you bought in Wilson County including taxes is \$14.93, what is the price (rounded to two decimal places) before tax?

a) \$12.93

b) \$13.99

c) \$15.94

d) \$8.91

$$\frac{1.0675P}{1.0675} = \frac{14.93}{1.0675} \quad |$$

24. Solve: $(2x-3)^2 - 8 = 0$

a) $x = \frac{3 \pm 2\sqrt{2}}{2}$

b) $x = 3, -2$

c) $x = -3 \pm 2\sqrt{2}$

d) $x = \frac{-3 \pm 2\sqrt{2}}{2}$

$$(2x-3)^2 = 8$$

$$2x-3 = \pm\sqrt{8}$$

$$2x = 3 \pm \sqrt{8}$$

$$x = \frac{3 \pm \sqrt{8}}{2}$$