

Please have your homework on your desk. Work on bellwork #8 alone.

Today's Essential Question: how do I solve absolute value equations?

Homework: p. 30: 17-47 odd

Summative quiz Thursday over 1.3 and 1.4. Chapter 1 test next Tuesday. (Everything except section 1.6)

$$\frac{1}{1}, \frac{2}{3}, \frac{4}{9}, \frac{8}{27}, \frac{16}{81} \quad E$$

$$\frac{x^{12}}{x^{14}} = x^{-2} = \frac{1}{x^2} \quad D$$

$$12 - 14 = -2$$

$$\underbrace{0.0000123}_{1.23 \times 10^{-5}} \quad A$$

$$\textcircled{20} \quad 10n+7$$

$$\textcircled{22} \quad -6n^3$$

$$\textcircled{24} \quad 2(n+8)$$

$$\textcircled{26} \quad (n-7)^3$$

$$\textcircled{30} \quad 32 \quad 36 \quad 42 \quad 52 \quad 58 \quad 60$$

↓
Twice a number plus 3 is -1.

$\textcircled{32}$ 3 times the cube of a number is equal to the # plus 4.

$$\textcircled{42} \quad 8 \quad \textcircled{46} \quad -\frac{3}{4} \quad \textcircled{50} \quad \frac{2}{3}$$

$$\textcircled{44} \quad 2.5 \quad \textcircled{48} \quad -11 \quad \textcircled{52} \quad -12$$

$$\textcircled{58} \quad a = \frac{-b}{2x}$$

$$\textcircled{60} \quad \frac{2A}{h} - a = b$$

$$\textcircled{3} \quad \underline{9 + 5b} = \underline{5b + 9}$$

all TR

TR

$$\textcircled{4} \quad \begin{array}{c} \cancel{7\sqrt{}} + 21 = 25 + \cancel{7\sqrt{}} \\ \cancel{-7\sqrt{}} \qquad \qquad \qquad \cancel{-7\sqrt{}} \end{array}$$

$$21 \neq 25$$

No Solution

$$\textcircled{46} \quad \frac{5}{8} + \frac{3}{4}x = \frac{1}{16}$$

$$\frac{-\frac{5}{8}}{\quad} \quad \frac{-\frac{5}{8}}{\quad}$$

$$\frac{4}{3} \cdot \frac{3}{4}x = \left(\frac{-9}{16}\right) \cdot \left(\frac{4}{3}\right)$$

$$x = \frac{-3}{4}$$

~~$$\textcircled{58} \quad x = \frac{-b}{2a}$$~~

~~$$x \cdot 2a = -b$$~~

~~$$x \cdot 2 \quad \quad \quad x \cdot 2$$~~

$$a = \frac{-b}{2x}$$

$$\textcircled{60} 2. A = \frac{1}{2}h(a+b) \cdot 2$$

$$\frac{2A}{h} = \frac{h(a+b)}{h}$$

$$\frac{2A}{h} = a+b$$

$$\frac{2A}{h} - a = b$$

Different:

$$A = \frac{1}{2}h(a+b)$$

$$A = \frac{1}{2}ha + \frac{1}{2}hb$$

$$A - \frac{1}{2}ha = \frac{1}{2}hb$$

$$\frac{A - \frac{1}{2}ha}{\frac{1}{2}h} = b$$

9/2 How do I solve absolute value equations?

$$| \begin{matrix} ? \\ 0 \end{matrix} | = 8$$

$$|8| = 8$$

$$|-8| = 8$$

Ex. $|x+1| = 8$

$$x+1 = 8$$

$$x = 7$$

Check:

$$|7+1| = 8$$
$$8 = 8 \checkmark$$

$$x+1 = -8$$

$$x = -9$$

$$|-9+1| = 8 \text{ ?}$$

$$|-8| = 8 \checkmark$$

Ex. Solve

$$|x+6| = 3x-2$$

negative

$$x+6 = 3x-2$$

$$\begin{array}{r} -3x \quad -3x \\ \hline -2x+6 = -2 \\ -6 \quad -6 \end{array}$$

$$\begin{array}{r} -2x = -8 \\ x = 4 \end{array}$$

$$x+6 = -3x+2$$

$$\begin{array}{r} +3x \quad +3x \\ \hline 4x+6 = 2 \\ -6 \quad -6 \\ \hline 4x = -4 \\ x = -1 \end{array}$$

Check:

$$|4+6| \stackrel{?}{=} 3 \cdot 4 - 2$$

$$10 = 12 - 2$$

$$10 = 10 \checkmark$$

$x=4$ works!

$$|-1+6| \stackrel{?}{=} 3 \cdot -1 - 2$$

$$|5| \stackrel{?}{=} -3 - 2$$

$$5 \neq -5$$

$x=-1$ does not work

Extraneous