

order of ops more complex problems

GEMDAS

$$1. 2(3+1)^2 - 9 \div -3$$

$$2 \cdot 4^2 - 9 \div -3$$

$$2 \cdot 16 - 9 \div -3$$

$$32 - 9 \div -3$$

$$32 - -3 \quad \text{minus negative} \\ \rightarrow \text{positive}$$

$$32 + 3 \\ \textcircled{35}$$

Oct 7-11:32 AM

GEMDAS

$$2. \frac{(5+9)-(2 \cdot 3)}{6 - 2(1+7)}$$

this means multiplication

$$= \frac{14 - -1}{6 - 2 \cdot 8}$$

$$= \frac{14 + 1}{6 - 16} = \frac{15}{-10} = \textcircled{\frac{-3}{2}}$$

Oct 7-11:38 AM

order of ops more complex problems

③ GEMDAS

$$\frac{18 - | -5 + 1 |}{-2}$$

$$= \frac{18 - | -4 |}{-2} = \frac{18 - 4}{-2} = \frac{14}{-2} = \textcircled{-7}$$

Oct 7-11:41 AM



④ $5(2|-7+3|) * 4$

$$5 + 2 |-4| * 4$$

$$5 + 2 \cdot (-4) * 4$$

$$5 + \cancel{8} * 4$$

$$5 + \cancel{32}$$

$$\textcircled{37}$$

Oct 7-11:43 AM

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$$\textcircled{5} \quad 18 \div 2 * (-3) * 7$$

$$\begin{array}{r} 27 \\ \cdot 7 \\ \hline 189 \end{array}$$

$$\begin{array}{r} 9 * -3 * 7 \\ -27 * 7 \\ \hline -189 \end{array}$$

Oct 7-11:46 AM

$$\textcircled{6} \quad \underline{12 + 21 \div (-7) * 5}$$

$$9 - 8(-2+1)$$

multiplication

$$= \underline{12 + 21 \div -7 * 5}$$

$$9 - 8 \cdot -1$$

$$= \frac{12 + -3 * 5}{9 - -8} = \frac{12 + -15}{9 + 8} = \frac{-3}{17}$$

Oct 7-11:49 AM

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$$\begin{aligned} \textcircled{7} \quad & 3 - \sqrt{6+3} \cdot 2 \\ & = 3 - \sqrt{9} \cdot 2 \\ & = 3 - 3 \cdot 2 \\ & = 3 - 6 \\ & = \textcircled{-3} \end{aligned}$$

Oct 7-11:52 AM

$$\begin{aligned} \textcircled{8} \quad & \frac{5 + 4(2-3)^2 \div (-1)}{2 \cdot 2 + 3 \cdot 2} \\ & = \frac{5 + 4 \cdot (-1)^2 \div -1}{4 + 6} = \frac{5 + 4 \cdot 1 \div -1}{10} \\ & = \frac{5 + 4 \div -1}{10} = \frac{5 - 4}{10} \\ & = \textcircled{\frac{1}{10}} \end{aligned}$$

Oct 7-11:53 AM

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HW

$$\textcircled{1} \quad 3(5-3)^2 - 10 \div -2$$

$$\textcircled{2} \quad \frac{(7+ -9) - (4+8)}{9-3(10+ -6)} \quad \textcircled{5} \quad 27 \div 3 * (-2) * (-1)$$

$$\textcircled{3} \quad \frac{|7 - |-9+2|}{-3}$$

$$\textcircled{6} \quad \frac{15+81 \div (-3)*2}{10-5(-3+2)}$$

$$\textcircled{4} \quad 3 - 4|-6+2| * -5$$

$$\textcircled{7} \quad 2 - \sqrt{9+7} * 3$$

$$\textcircled{8} \quad \frac{3+2(2-4)^2 \div (-1)}{8 \cdot 2 + 3 \cdot 3}$$

Oct 7-11:57 AM