ORDER OF OPERATIONS

Example 1: $\left(15 \div 1\dfrac{2}{3}\right) \times \left(-\dfrac{2}{3}\right)^2 + \dfrac{7}{2}$

$$= 9 \times \dfrac{4}{9} + \dfrac{7}{2}$$

$$= 4 + \dfrac{7}{2}$$

$$= \mathbf{\dfrac{15}{2}} \textbf{ or } \mathbf{7\dfrac{1}{2}}$$

Example 2: $(2.9 - 1.8)^2 \times 1.2 + 3.08$

$$= 1.1^2 \times 1.2 + 3.08$$

$$= 1.21 \times 1.2 + 3.08$$

$$= 1.452 + 3.08$$

$$= \mathbf{4.532}$$

Solve each expression.

1) $19.3 + 4 \times (17.8 - 15.2) \div 2^3$

2) $6.9^2 + 8.1 \div (8.9 - 6.2)$

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3) $-\dfrac{3}{4} + \left(2\dfrac{1}{2}\right)^2 - \left(\dfrac{1}{5} \div \dfrac{4}{5}\right)$

4) $\left(\dfrac{1}{5}\right)^2 + \left(\dfrac{7}{9} \times \dfrac{18}{35}\right)$

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5) $(5.13 - 1.5 \times 7.2) + 1.7^2$

6) $(11.2 - 1.9)^2 \div (-3.1)$

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7) $\left(\dfrac{17}{7} - \dfrac{16}{7}\right) \times 2 - \left(\dfrac{6}{7}\right)^2$

8) $\left(7 \div \dfrac{7}{8}\right) + 3^2 - \left(\dfrac{4}{5} \times \dfrac{15}{4}\right)^3$

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ORDER OF OPERATIONS

Answer key

Example 1: $\left(15 \div 1\frac{2}{3}\right) \times \left(-\frac{2}{3}\right)^2 + \frac{7}{2}$

$= 9 \times \frac{4}{9} + \frac{7}{2}$

$= 4 + \frac{7}{2}$

$= \mathbf{\frac{15}{2}}$ **or** $\mathbf{7\frac{1}{2}}$

Example 2: $(2.9 - 1.8)^2 \times 1.2 + 3.08$

$= 1.1^2 \times 1.2 + 3.08$

$= 1.21 \times 1.2 + 3.08$

$= 1.452 + 3.08$

$= \mathbf{4.532}$

Solve each expression.

1) $19.3 + 4 \times (17.8 - 15.2) \div 2^3$

20.6

2) $6.9^2 + 8.1 \div (8.9 - 6.2)$

50.61

3) $-\frac{3}{4} + \left(2\frac{1}{2}\right)^2 - \left(\frac{1}{5} \div \frac{4}{5}\right)$

$\mathbf{5\frac{1}{4}}$

4) $\left(\frac{1}{5}\right)^2 + \left(\frac{7}{9} \times \frac{18}{35}\right)$

$\mathbf{\frac{11}{25}}$

5) $(5.13 - 1.5 \times 7.2) + 1.7^2$

−2.78

6) $(11.2 - 1.9)^2 \div (-3.1)$

−27.9

7) $\left(\frac{17}{7} - \frac{16}{7}\right) \times 2 - \left(\frac{6}{7}\right)^2$

$\mathbf{-\frac{22}{49}}$

8) $\left(7 \div \frac{7}{8}\right) + 3^2 - \left(\frac{4}{5} \times \frac{15}{4}\right)^3$

−10