

Homework #4 - Order of Operations

Date _____ 5T _____

Evaluate each expression.

1) $4 \times 6 + 12 \div 6$

$= 24 + 2$

$= 26$

2) $(2 + 4)(5 - 4)$

$= 6 \times 1$

$= 6$

3) $(10 \times 2 - 5) \div (6 - 1)$

$= 15 \div 5$

$= 3$

4) $(15 \div 3) + 3 + (6 \times 2)$

$= 5 + 3 + 12$

$= 20$

5) $5.2 + 1.7 + (4.2 \times 5.3)$

$= 5.2 + 1.7 + 22.26$

$= 29.16$

6) $(5.3^2 \div 3.9) - (5.3 \div 5.2)$

$= (28.09 \div 3.9) - 1.019230769$

$= 7.202564103 - 1.019230769$

$= 6.183$

7) $\left(\frac{8}{5} - \frac{1}{3}\right) \times 2$

$= \left(\frac{24}{15} - \frac{5}{15}\right) \times 2$

$= \frac{19}{15} \times \frac{2}{1}$

$= \frac{38}{15}$

9) $\frac{5}{3} - \left(\frac{2}{3} \times \frac{3}{2}\right)$

$= \frac{5}{3} - \frac{6}{6}$

$= \frac{10}{6} - \frac{6}{6}$

$= \frac{4}{6} = \frac{2}{3}$

8) $\left(\frac{5}{6} + \frac{1}{4}\right)^2$

$= \left(\frac{20}{24} + \frac{6}{24}\right)^2$

$= \left(\frac{26}{24}\right)^2$

$= \frac{676}{576}$

$= \frac{169}{144}$

10) $\left(\frac{2}{3} + \frac{2}{3}\right) \div \frac{7}{5}$

$= \left(\frac{6}{3} + \frac{2}{3}\right) \div \frac{7}{5}$

$= \frac{8}{3} \times \frac{5}{7}$

$= \frac{40}{21}$

$$\begin{aligned}
 11) \quad & \frac{3}{4} - \frac{2}{3} + \left(\frac{3}{2} \times \frac{7}{5} \right) \\
 &= \left(\frac{3}{4} - \frac{2}{3} \right) + \frac{21}{10} \\
 &= \left(\frac{9}{12} - \frac{8}{12} \right) + \frac{21}{10} \\
 &= \frac{1}{12} + \frac{21}{10} \\
 &= \frac{10}{120} + \frac{252}{120} \\
 &= \frac{262}{120} \\
 &= \frac{131}{60}
 \end{aligned}$$

$$\begin{aligned}
 12) \quad & \frac{19}{11} \left(1 + \frac{4}{5} \right)^2 \\
 &= \frac{19}{11} \left(\frac{5}{5} + \frac{4}{5} \right)^2 \\
 &= \frac{19}{11} \left(\frac{9}{5} \right)^2 \\
 &= \frac{19}{11} \times \frac{81}{25} \\
 &= \frac{1539}{275}
 \end{aligned}$$

$$\begin{aligned}
 13) \quad & \left(\frac{3}{2} - \frac{1}{2} \right) \left(\frac{7}{6} + \frac{1}{2} \times \frac{2}{5} \right) \\
 &= \left(\frac{2}{2} \right) \left(\frac{7}{6} + \frac{2}{10} \right) \\
 &= \left(\frac{2}{2} \right) \left(\frac{70}{60} + \frac{12}{60} \right) \\
 &= \frac{2}{2} \times \frac{82}{30} \\
 &= \frac{41}{30}
 \end{aligned}$$

$$\begin{aligned}
 14) \quad & \frac{5}{3} \div \frac{1}{1} \times \frac{1}{3} + \left(\frac{3}{2} \right)^2 \\
 &= \frac{5}{3} \times \frac{1}{1} \times \frac{1}{3} + \frac{9}{4} \\
 &= \frac{5}{9} + \frac{9}{4} \\
 &= \frac{20}{36} + \frac{81}{36} \\
 &= \frac{101}{36}
 \end{aligned}$$

Evaluate each using the values given.

$$\begin{aligned}
 15) \quad & a + b - (c + a); \text{ use } a = 2, b = 5, \text{ and } c = 3 \\
 &= 2 + 5 - (3 + 2) \\
 &= 7 - 5 \\
 &= 2
 \end{aligned}$$

$$\begin{aligned}
 16) \quad & c \times b^2 \div 6; \text{ use } b = 6, \text{ and } c = 2 \\
 &= 2 \times 6^2 \div 6 \\
 &= 2 \times 36 \div 6 \\
 &= 2 \times 6 \\
 &= 12
 \end{aligned}$$

$$\begin{aligned}
 17) \quad & x + xy; \text{ use } x = 6, \text{ and } y = \frac{1}{2} \\
 &= 6 + 6 \times \frac{1}{2} \\
 &= 6 + \left(\frac{6}{1} \times \frac{1}{2} \right) \\
 &= 6 + \frac{6^1}{2_1} \\
 &= 6 + 3 \\
 &= 9
 \end{aligned}$$

$$\begin{aligned}
 18) \quad & (y + x)^2; \text{ use } x = \frac{3}{5}, \text{ and } y = 1 \\
 &= \left(1 + \frac{3}{5} \right)^2 \\
 &= \left(\frac{5}{5} + \frac{3}{5} \right)^2 \\
 &= \left(\frac{8}{5} \right)^2 \\
 &= \frac{64}{25}
 \end{aligned}$$