Math 9 - Unit 1: Real Numbers Name_____

Homework #4 - Order of Operations

Date_____ 5T____

Evaluate each expression.

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

$= 24 + 2$

$= 26$

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

$= (6)(1)$

$= 6$

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

$= (20 - 5) \div (5)$

$= 15 \div 5$

$= 3$

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

$= 28.09 \div 3.9 - 1.02$

$= 7.2 - 1.02$

$= 6.18$

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

$= \left(\frac{24}{15} - \frac{5}{15}\right) \times \frac{2}{1}$

$= \frac{19}{15} \times \frac{2}{1} = \frac{38}{15}$

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

$= \left(\frac{10}{12} + \frac{3}{12}\right)^2$

$= \left(\frac{13}{12}\right)^2 = \frac{13}{12} \times \frac{13}{12} = \frac{169}{144}$

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

$= \frac{5}{3} - \frac{1}{1}$

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

$= \frac{2}{3}$

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

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

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

$= \frac{40}{21}$

11) $\frac{3}{4} - \frac{2}{3} + \frac{3}{2} \times \frac{7}{5}$

$= \frac{3}{4} - \frac{2}{3} + \frac{21}{10}$ CD = 60

$= \frac{45}{60} - \frac{40}{60} + \frac{126}{60}$

$= \frac{131}{60}$

12) $\frac{19}{11}\left(1 + \frac{4}{5}\right)^2$

$= \frac{19}{11} \times \left(\frac{5}{5} + \frac{4}{5}\right)^2$

$= \frac{19}{11} \times \left(\frac{9}{5}\right)^2 = \frac{1539}{275}$

$= \frac{19}{11} \times \frac{81}{25}$

13) $\left(\frac{3}{2} - \frac{1}{2}\right)\left(\frac{7}{6} + \frac{1}{2} \times \frac{2}{5}\right)$

$= \left(\frac{2}{2}\right) \times \left(\frac{7}{6} + \frac{1}{5}\right)$

$= \frac{35}{30} + \frac{6}{30}$

$= \frac{41}{30}$

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

$= \frac{5}{3} \times \frac{1}{3} + \frac{9}{4}$

$= \frac{5}{9} + \frac{9}{4}$

$= \frac{20}{36} + \frac{81}{36} = \frac{101}{36}$

Evaluate each using the values given.

15) $a + b - (c + a)$; use $a = 2$, $b = 5$, and $c = 3$

$= 2 + 5 - (3 + 2)$

$= 7 - 5$

$= 2$

16) $c \times b^2 \div 6$; use $b = 6$, and $c = 2$

$= 2 \times 6^2 \div 6$

$= 2 \times 36 \div 6$

$= 12$

17) $x + xy$; use $x = 6$, and $y = \frac{1}{2}$

$= 6 + 6 \times \frac{1}{2}$

$= 6 + 3$

$= 9$

18) $(y + x)^2$; use $x = \frac{3}{5}$, and $y = 1$

$= \left(1 + \frac{3}{5}\right)^2$

$= \left(\frac{5}{5} + \frac{3}{5}\right)^2$

$= \left(\frac{8}{5}\right)^2 = \frac{64}{25}$

Answers: 1)26 2)6 3)3 4)20 5)29.16 6)6.18 7)38/15 8)169/144 9)2/3 10)40/21 11)131/60 12)1539/275 13)41/30 14)101/36 15)2 16)12 17)9 18)64/25