

Order of Operations

Unit 1: Expressions

Simply each of the following expressions using the order of operations and showing all of your steps along the way:

<p>1. $(-10 + 4) \div -6$ $(-6) \div -6$ $\boxed{1}$</p>	<p>2. $-12 \div (-6 + 2 - (-2))$ $-12 \div (-6 + 2 + 2)$ $-12 \div (-4 + 2)$ $-12 \div (-2)$ $\boxed{6}$</p>
<p>3. $-2 - (-3 + 3^3)$ $-2 - (-3 + 27)$ $-2 - (24)$ $-2 - 24$ $\boxed{-26}$</p>	<p>4. $(2 - 3)^3 \times 6 \times -2$ $(-1)^3 \times 6 \times -2$ $-1 \times 6 \times -2$ -6×-2 $\boxed{12}$</p>
<p>5. $5 \div ((-3 - -3) \times -5 - 1)$ $5 \div ((-3 + 3) \times -5 - 1)$ $5 \div (0 \times -5 - 1)$ $5 \div (0 - 1)$ $5 \div (-1)$ $\boxed{-5}$</p>	<p>6. $2(-5 \times 3 + 3(-2 - 3))$ $2(-5 \times 3 + 3(-5))$ $2(-15 + 3(-5))$ $2(-15 - 15)$ $2(-30)$ $\boxed{-60}$</p>
<p>7. $-6 + (1 - -1) \div (-1 + 3 - 3)$ $-6 + (1 + 1) \div (2 - 3)$ $-6 + (2) \div (-1)$ $-6 - 2$ $\boxed{-8}$</p>	<p>8. $5(-1 + 6) - 3(-4 - 6) + 2$ $5(5) - 3(-10) + 2$ $25 + 30 + 2$ $55 + 2$ $\boxed{57}$</p>
<p>9. $(11 - 2 - (4 - 1)) \div (-3 - -4 - 4)$ $(11 - 2 - (3)) \div (-3 + 4 - 4)$ $(9 - 3) \div (1 - 4)$ $(6) \div (-3)$ $\boxed{-2}$</p>	<p>10. $-6(2 - (-5 + -5 - -1)) + 6 + -4 - -4$ $-6(2 - (-5 - 5 + 1)) + 6 - 4 + 4$ $-6(2 - (-10 + 1)) + 6 - 4 + 4$ $-6(2 - (-9)) + 6 - 4 + 4$ $-6(2 + 9) + 6 - 4 + 4$ $-6(11) + 6 - 4 + 4$ $-66 + 6 - 4 + 4$ $-60 - 4 + 4$ $-64 + 4$ $\boxed{-60}$</p>

<p>11. $(x - z)^2$ Using $x = -2$, and $z = 5$</p> $(-2 - 5)^2$ $(-7)^2$ $\boxed{49}$	<p>12. $5 + x - (x - z)$ Using $x = 2$, and $z = 2$</p> $5 + 2 - (2 - 2)$ $5 + 2 - (0)$ $5 + 2 - 0$ $7 - 0$ $\boxed{7}$
<p>13. $a - 5 - c^2$ Using $a = -2$, and $c = -4$</p> $-2 - 5 - (-4)^2$ $-2 - 5 - (16)$ $-7 - 16$ $\boxed{-23}$	<p>14. $3(q + q - 5 - p)$ Using $p = -5$, and $q = 5$</p> $3(5 + 5 - 5 - (-5))$ $3(5 + 5 - 5 + 5)$ $3(10 - 5 + 5)$ $3(5 + 5)$ $3(10)$ $\boxed{30}$
<p>15. $m + (q + p)(m - 4)$ Using $m = 4$, $p = -2$, and $q = 4$</p> $4 + (4 + (-2))(4 - 4)$ $4 + (4 - 2)(0)$ $4 + (2)(0)$ $4 + 0$ $\boxed{4}$	<p>16. $-30 - (q + p) - rp$ Using $p = -5$, $q = 1$, and $r = -4$</p> $-30 - (1 + (-5)) - (-4)(-5)$ $-30 - (1 - 5) + 4(-5)$ $-30 - (-4) - 20$ $-30 + 4 - 20$ $-26 - 20$ $\boxed{-46}$
<p>17. $k - ((j + k) \div 6 + 5 \div 5)$ Using $j = -5$, and $k = -1$</p> $-1 - ((-5) + (-1)) \div 6 + 5 \div 5$ $-1 - (-5 - 1) \div 6 + 5 \div 5$ $-1 - (-6) \div 6 + 5 \div 5$ $-1 - (-1) + 1$ $-1 + 1 + 1$ $0 + 1 \rightarrow \boxed{1}$	<p>18. $r^2 - 3(p - (qp - q))$ Using $p = -2$, $q = -4$, and $r = -1$</p> $(-1)^2 - 3((-2) - ((-4)(-2) - (-4)))$ $1 - 3(-2 - (8 + 4))$ $1 - 3(-2 - 12)$ $1 - 3(-14)$ $1 + 42$ $\boxed{43}$
<p>19. $p - 5 + np - (p - n)^2$ Using $n = 2$, and $p = 4$</p> $4 - 5 + 2(4) - (4 - 2)^2$ $4 - 5 + 8 - (2)^2$ $4 - 5 + 8 - 4$ $-1 + 8 - 4$ $7 - 4 \rightarrow \boxed{3}$	<p>20. $m(q + q + p \times m \div 2 - 3 - p)$ Using $m = -2$, $p = -1$, and $q = -4$</p> $-2(-4 + -4 + -1 \times -2 \div 2 - 3 - (-1))$ $-2(-4 - 4 + 2 \div 2 - 3 + 1)$ $-2(-4 - 4 + 1 - 3 + 1)$ $-2(-8 + 1 - 3 + 1)$ $-2(-7 - 3 + 1)$ $-2(-10 + 1)$ $-2(-9)$ $\boxed{18}$

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