

Simplifying Absolute Value Problems

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Date _____ Period _____

Evaluate each expression.

1) $|-1 - 2|$

2) $9 \div (|3|)$

3) $|1 - 4| \times -2$

4) $-\frac{12}{|-1| + 1}$

5) $|1 - -3| + |5|$

6) $(|3 - 3| - -4) \times 5$

Evaluate each using the values given.

7) $b - |a|$; use $a = 5$, and $b = 6$

8) $|x + y|$; use $x = 3$, and $y = -5$

9) $q - |r|$; use $q = 3$, and $r = -1$

10) $|j - h|$; use $h = 5$, and $j = 6$

11) $x - (|z| + x)$; use $x = 6$, and $z = 3$

12) $6|x + y|$; use $x = 1$, and $y = 1$

13) $(|p + q|) \div 5$; use $p = -2$, and $q = -3$

14) $j(h - |h|)$; use $h = -1$, and $j = 5$

15) $|2| + h + |j|$; use $h = 6$, and $j = -4$

16) $|x - y| + y - 1$; use $x = -3$, and $y = -6$

17) $3 - (p + |m - m|)$; use $m = 4$, and $p = -4$

18) $n(m + |-1|) - n$; use $m = 1$, and $n = -6$

19) $|ab| - |b| + b$; use $a = 3$, and $b = 6$

20) $x - (x + y - |-x|)$; use $x = -2$, and $y = 4$

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Evaluate each expression.

1) $|-1-2|$

$$|-3| = \boxed{3}$$

2) $9 \div (|3|)$

$$9 \div 3 = \boxed{3}$$

3) $|1-4| \times -2$

$$|-3| \cdot -2$$

$$3 \cdot -2$$

$$\boxed{-6}$$

4) $-\frac{12}{|-1|+1}$

$$-\frac{12}{1+1} = -\frac{12}{2} = \boxed{-6}$$

5) $|1-3| + |5|$

$$|1+3| + 5$$

$$|4| + 5$$

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

6) $(|3-3| - 4) \times 5$

$$(0 - 4) \cdot 5$$

$$(-4) \cdot 5$$

$$-20 = \boxed{-20}$$

Evaluate each using the values given.

7) $b - |a|$; use $a = 5$, and $b = 6$

$$6 - |5| = 6 - 5 = \boxed{1}$$

8) $|x + y|$; use $x = 3$, and $y = -5$

$$|3 + (-5)| = |3 - 5| = |-2| = \boxed{2}$$

9) $q - |r|$; use $q = 3$, and $r = -1$

$$3 - |-1| = 3 - 1 = \boxed{2}$$

10) $|j - h|$; use $h = 5$, and $j = 6$

$$|6 - 5| = |1| = \boxed{1}$$

11) $x - (|z| + x)$; use $x = 6$, and $z = 3$

$$\begin{aligned} 6 - (|3| + 6) &= 6 - (3 + 6) \\ &= 6 - 9 \\ &= \boxed{-3} \end{aligned}$$

13) $(|p + q|) \div 5$; use $p = -2$, and $q = -3$

$$\begin{aligned} |-2 + (-3)| \div 5 \\ |-5| \div 5 \\ 5 \div 5 = \boxed{1} \end{aligned}$$

15) $|2| + h + |j|$; ~~use $h = 6$, and $j = -4$~~

$$\begin{aligned} |2| + 6 + |-4| \\ 2 + 6 + 4 = \boxed{12} \end{aligned}$$

17) $3 - (p + |m - m|)$; use $m = 4$, and $p = -4$

$$\begin{aligned} 3 - (-4 + |4 - 4|) \\ = 3 - (-4 + 0) \\ = 3 - (-4) = 3 + 4 = \boxed{7} \end{aligned}$$

19) $|ab| - |b| + b$; use $a = 3$, and $b = 6$

$$\begin{aligned} |3 \cdot 6| - |6| + 6 \\ |18| - 6 + 6 \\ 18 - 6 + 6 = \boxed{18} \end{aligned}$$

12) $6|x + y|$; use $x = 1$, and $y = 1$

$$\begin{aligned} 6|1 + 1| &= 6|2| = 6(2) \\ &= \boxed{12} \end{aligned}$$

14) $j(h - |h|)$; use $h = -1$, and $j = 5$

$$\begin{aligned} 5(-1 - |-1|) &= 5(-1 - 1) \\ &= 5(-2) \\ &= \boxed{-10} \end{aligned}$$

16) $|x - y| + y - 1$; use $x = -3$, and $y = -6$

$$\begin{aligned} |-3 - (-6)| + (-6) - 1 \\ |-3 + 6| + (-6) - 1 \\ |3| - 6 - 1 = 3 - 6 - 1 = \boxed{-4} \end{aligned}$$

18) $n(m + |-1|) - n$; use $m = 1$, and $n = -6$

$$\begin{aligned} -6(1 + |-1|) - (-6) \\ -6(1 + 1) + 6 \\ -6(2) + 6 = -12 + 6 = \boxed{-6} \end{aligned}$$

20) $x - (x + y - |-x|)$; use $x = -2$, and $y = 4$

$$\begin{aligned} -2 - (-2 + 4 - |-2|) \\ -2 - (-2 + 4 - 2) \\ -2 - (0) = \boxed{-2} \end{aligned}$$