Unit 01: Review Calculators are not permitted on this review.

1. Simplify $6 \cdot 3/(11 - 2)$

$6 \cdot 3/(11-2)$
$= 6 \cdot 3/9$
$= 18/9 = \boxed{2}$

2. Simplify $2(48 \div 4) + 2(5 - 2) - 1$

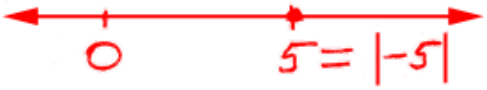
$2(12) + 2(3) - 1$
$= 24 + 2(3) - 1$
$= 24 + 6 - 1$
$= 30 - 1 = \boxed{29}$

3. Locate the opposite of –7 on a number line.

4. Simplify |4 – 6 + 1|

$|4-6+1|$
$= |-2+1|$
$= |-1| = \boxed{1}$

5. Locate |–5| on a number line.



6. Simplify 18(–2)

$18(-2) = \boxed{-36}$

7. Simplify –5(–6)

$-5(-6) = \boxed{30}$

8. Simplify 24/(–8)

$\frac{24}{-8} = \boxed{-3}$

9. Simplify –50/(–10)

$\frac{-50}{-10} = \boxed{5}$

10. Simplify –12 + 5

$-12+5 = \boxed{-7}$

11. Simplify –79 – 2

$-79-2 = \boxed{-81}$

12. Using the fact that 1 inch = 2.54 centimeters, use a unit multiplier to convert 8 inches into centimeters.

$\frac{8\ \text{in}}{1}\ \frac{2.54\ \text{cm}}{1\ \text{in}}$

$= \boxed{20.32\ \text{cm}}$

13. Using the fact that 2 nerds = 32 twerps, use a unit multiplier to convert 10 nerds to twerps.

$\frac{10\ \text{nerd}}{1}\ \frac{32\ \text{trp}}{2\ \text{nerd}}$

$= \frac{10 \cdot 32}{2}\ \text{trp}$

$= \frac{320}{2}\ \text{trp} = \boxed{160\ \text{twerps}}$

14. Using the fact that 1 centimeter = 10 millimeters, use a unit multiplier to convert 82 millimeters to centimeters.

$\frac{82\ \text{mm}}{1}\ \frac{1\ \text{cm}}{10\ \text{mm}}$

$= \frac{82}{10}\ \text{cm} = \boxed{8.2\ \text{cm}}$

15. Simplify $3x - 7y + 2x - 2y$ by combining like terms and then evaluate at x = 7 and y = – 6.

$3x - 7y + 2x - 2y = 5x - 9y$

$= 5 \cdot 7 - 9(-6) = 35 + 54 = \boxed{89}$

16. Simplify 11x – 6 – 23x + 1

$11x - 6 - 23x + 1$

$= \boxed{-12x - 5}$

17. Evaluate |4b – 3c – 9| if b =3 and c = 2.

$|4b - 3c - 9|$

$= |4 \cdot 3 - 3 \cdot 2 - 9|$

$= |12 - 6 - 9|$

$= |6 - 9| = |-3| = \boxed{3}$

18. Simplify 3/4 – 1/6 + 2

$\frac{3}{4}\frac{3}{3} - \frac{1}{6}\frac{2}{2} + \frac{2}{1}\frac{12}{12}$

$= \frac{9}{12} - \frac{2}{12} + \frac{24}{12}$

$= \frac{9-2}{12} + \frac{24}{12}$

$= \frac{7+24}{12}$

$= \boxed{\frac{31}{12}}$

19. Simplify $\left(\frac{1}{5}x - \frac{7}{4}x\right) \div \frac{1}{2}$

$\left(\frac{1}{5}\frac{x}{1} - \frac{7}{4}\frac{x}{1}\right) \div \frac{1}{2}$

$= \left(\frac{x}{5}\frac{4}{4} - \frac{7x}{4}\frac{5}{5}\right)\frac{2}{1}$

$= \left(\frac{4x - 35x}{20}\right)\frac{2}{1}$

$= \frac{-31x}{20}\frac{2}{1} = \frac{-62x}{20}$

$= \boxed{\frac{-31x}{10}}$

20. Simplify 1 – 6(2x – 3) – 2(2 – x) and then evaluate at x = –5.

$1 - 6(2x - 3) - 2(2 - x)$

$= 1 - 12x + 18 - 4 + 2x$

$= 19 - 10x - 4$

$= 15 - 10x = 15 - 10 \cdot (-5) = 15 + 50 = \boxed{65}$