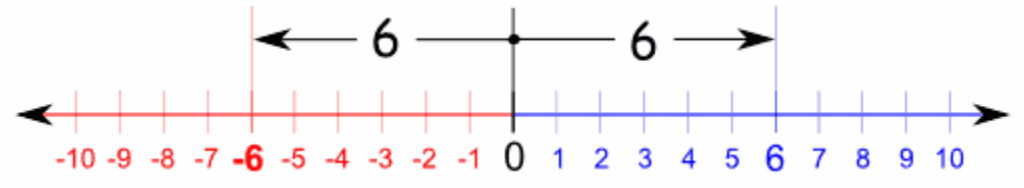
Math 5c: Classwork & Homework 3

Absolute Value

Absolute Value means ...

... only **how far** a number is from zero:



"6" is 6 away from zero,
and "−6" is **also** 6 away from zero.

For more information please see: https://www.mathsisfun.com/numbers/absolute-value.html

1. Compute:

   a) $-3\frac{3}{5}+1\frac{3}{7}$

   b) $-2\frac{3}{7}-1\frac{1}{8}$

   c) $-2-(3-1\frac{5}{6}+4\frac{11}{18})$

   d) $-23\frac{1}{9}-(-4\frac{5}{12}+5\frac{1}{3}-(-7))$

   e) -3 + | 4 – (-6) + 9 – 11 |

   e) $|3\frac{1}{7}-(-8+|-23-(-\left(6-7\frac{1}{4}\right))|)|$

2. Open parenthesis and simplify:

a) - 4 (x – 2y + 4 -5y)

b) -7 (8 - | 4- 7| + 3x – 5y + 7x)

c) $3\left(x-3\frac{2}{9}+4y-3\frac{1}{3}y-(-4\frac{1}{4}x)\right)$

d) $-\frac{1}{5}\left(10x-2\frac{2}{10}y-3\frac{6}{15}x+8-(-4\frac{7}{15}y)\right)$

3. Solve the equations:

   (a) $|x| = 10$ (c) $|x - 9| = 20$ e) $|y + 14| = 18$

   (b) $|x - 7 + 4x| = 3$ (d) $z + |-6 + 24 - 45| = -15$ f) $|y - 8y + 6| = 15$

4. Calculate using factorization and distributive laws (straight forward multiplication and addition may be painful) Notation: × = * - multiplication:

   (a) $3 * 7 + 7 * 7 =$ b) $10 \times 1\frac{1}{3} - 7 \times 1\frac{1}{3} + 15 \times 1\frac{1}{3} =$

   (c) $12 * 17 + 35 * 13 + 17 * 23 =$

   (d) $41 \times 80 - 25 \times 41 + 55 \times 29 =$

5. The teacher asked the students to multiply a given number by 4 and then add 15. However, Alex multiplied the number by 15 and then added 4 – and he still got the correct answer. What was the number?

6. * Two secretaries, Barbara and Mary, need to type a 100-page document. Barbara can type it in 4 hours, Mary types slower, so it would take her 5 hours to do this. How fast can they type, if they divide the work between the two of them in the most efficient way?

7. A pet store sells parrots and canaries, A canary costs twice as much as a parrot. One customer bought 5 canaries and 3 parrots, while the other bought 3 canaries and 5 parrots. One of the customers paid $20 more than the other. How much does each bird cost?

8. Timothy and Cristina together have 93 cents; Timothy and Joanna together have 104 cents; Joanna and Cristina together have 95 cents. How much money does each of them have?

9. Write the numbers as decimals:

   $11 + \frac{5}{1000} + \frac{1}{100} + \frac{7}{10} =$ $\frac{4}{10000} + \frac{1}{1000} + \frac{7}{10} =$ $9 + \frac{1}{1000} + \frac{9}{100} =$

   $112 + \frac{5}{10000} + \frac{1}{10} =$ $\frac{3}{1000} + \frac{1}{10000} =$ $1010 + \frac{8}{10000} =$

   $100 + \frac{9}{1000} + \frac{1}{100} + \frac{9}{10} =$