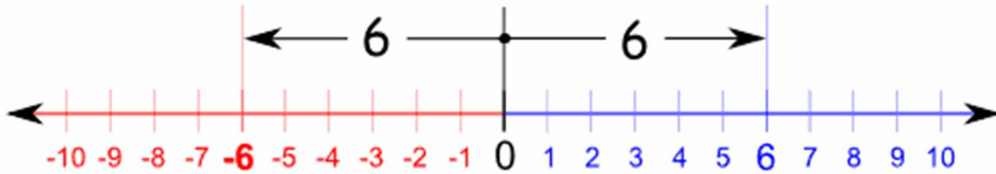


Math 5b: Classwork & Homework 3

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

2. Open parenthesis and simplify:

a) $-4(x - 2y + 4 - 5y)$

b) $-7(8 - |4 - 7| + 3x - 5y + 7x)$

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

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

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: $\times = *$ - 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:

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

$\frac{4}{10000} + \frac{1}{1000} + \frac{7}{10} =$

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

$112 + \frac{5}{10000} + \frac{1}{10} =$

$\frac{3}{1000} + \frac{1}{10000} =$

$1010 + \frac{8}{10000} =$

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