

## Palomar College Math Placement Test Study Guide Beginning Algebra

### Topic 1: Signed Numbers and Rationals

1.  $8 - 4 \div 2 - 2 =$

2.  $-|-7| - |5| =$

3.  $|3 - 10| + |-3| - |-10| =$

4.  $\sqrt{4} - 5(6 - 8) - (-3)^2 =$

5. a.  $\left(-\frac{4}{9}\right)^2 =$       b.  $-\left(\frac{4}{9}\right)^2 =$

6. The lowest temperature on a winter morning in Fairbanks, Alaska was  $-23^\circ\text{F}$ . By the afternoon the temperature reached  $8^\circ\text{F}$ . By how many degrees Fahrenheit did the temperature increase?

7. What is the reciprocal of  $-4$ ?

8. Place in order from least to greatest:  $-0.3, 0.3, 1/3, -1.3$

9.  $0.49999 \times 14.123456789111$  is approximately equal to

a. 0.07      b. 0.7      c. 7      d. 70

10.  $\frac{3^2 - 6^2}{(3 - 6)^2} =$

11.  $-\frac{7}{8} \div \left(-\frac{3}{16}\right) =$

12.  $\frac{-15 \cdot 30 \div 5^2}{2 \cdot 3 - 6} =$

13.  $-\frac{3}{5} \left( \frac{2}{3} + \frac{1}{2} \left( \frac{1}{2} - \frac{3}{4} \right) \right) =$

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#### Answers:

1. 4
2. -12
3. 0
4. 3
5. a.  $\frac{16}{81}$     b.  $\frac{-16}{81}$
6. The temperature increased by 31°F.
7.  $-\frac{1}{4}$
8. -1.3, -0.3, 0.3,  $\frac{1}{3}$
9. (c)
10. -3
11.  $\frac{14}{3}$
12. undefined
13.  $-\frac{13}{40}$