

BRONX COMMUNITY COLLEGE
of The City University of New York

DEPARTMENT OF MATHEMATICS and COMPUTER SCIENCE

MTH 05 First Day Test
(No Grade)

Based on review for MTH 01

1. Compute

(a) $2783 \div 11 = 253$

(b) $23 * 10^9 = 23000000000$

(c) $23 + 123 + 1098 + 3 = 1247$

(d) $132 \times 23 = 3036$

(e) $1.2 + .45 + 3.12 = 4.77$

(f) $0.0123 \times 10^3 = 12.3$

(g) $3.123 - 1.09 = 2.033$

(h) $1.2 \div 0.03 = 40$

2. Find prime factorization of 210.

Answer: $210 = 2 \times 3 \times 5 \times 7$

3. Compute the quotient and remainder of $5684 \div 21$

Answer: quotient = 270, and remainder = 14

4. Reduce to lowest terms $\frac{12}{56}$

Answer: $\frac{12}{56} = \frac{3}{14}$

5. Change to improper fraction $2\frac{3}{5}$

Answer: $2\frac{3}{5} = \frac{13}{5}$

6. Change to a mixed number $\frac{56}{3}$

Answer: $\frac{56}{3} = 18\frac{2}{3}$

7. Compute and simplify if possible

$$(a) 2\left(\frac{3}{4}\right) = \frac{6}{4} = \frac{3}{2}$$

$$(b) \frac{6}{23} \div 3 = \frac{6}{23} \div \frac{3}{1} = \frac{6}{23} \times \frac{1}{3} = \frac{6}{23 \times 3} = \frac{2}{23}$$

$$(c) \frac{2}{3} + \frac{4}{5} = \frac{10}{15} + \frac{12}{15} = \frac{22}{15}$$

$$(d) \frac{3}{2} - \frac{1}{3} = \frac{9}{6} - \frac{2}{6} = \frac{7}{6}$$

$$(e) \frac{1}{2} + \frac{2}{3} + \frac{3}{4} = \frac{6}{12} + \frac{8}{12} + \frac{9}{12} = \frac{23}{12}$$

$$(f) \frac{2}{3} \div \frac{5}{6} = \frac{2}{3} \times \frac{6}{5} = \frac{2}{1} \times \frac{2}{5} = \frac{4}{5}$$

$$(g) 2\frac{2}{3} \times \frac{6}{5} = \frac{8}{3} \times \frac{6}{5} = \frac{8}{1} \times \frac{2}{5} = \frac{16}{5}$$

$$(h) 2\frac{3}{4} \div 3\frac{2}{3} = \frac{11}{4} \div \frac{11}{3} = \frac{11}{4} \times \frac{3}{11} = \frac{3}{4}$$

8. Evaluate $x \times \frac{x-y}{2x+y}$, if $x = 3, y = 1$

Solution: $x \times \frac{x-y}{2x+y} = 3 \times \frac{3-1}{2 \times 3 + 1} = 3 \times \frac{2}{7} = \frac{6}{7}$

9. Solve for x : (a) $x - 3 = 5$

(b) $2x + 4 = 10$

Answer: $x = 8$

Answer: $x = 3$

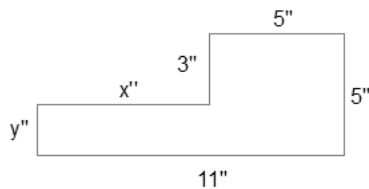
(c) $2 - x = 4$

(b) $\frac{1}{x} = \frac{2}{7}$

Answer: $x = -2$

Answer: $x = \frac{7}{2}$

10. Find the missing sides, then find area and perimeter of the figure.



$$x = 6, y = 2,$$

$$\text{Perimeter } P = \text{sum of lengths of all sides} = 2 + 6 + 3 + 5 + 5 + 11 = 32 \text{ in.}$$

$$\text{Area of the top rectangle } A_1 = W \times L = 3 \times 5 = 15 \text{ in}^2$$

$$\text{Area of the bottom rectangle } A_2 = W \times L = 2 \times 11 = 22 \text{ in}^2$$

$$\text{Total area } A = A_1 + A_2 = 15 + 22 = 37 \text{ in}^2$$