BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 05 Exam 1
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Directions: Write your answers in the provided space. To get full credit you *must* show all your work. Simplify your answers whenever possible. Be certain to indicate your final answer clearly.

1. Which of the following is *larger*?

(a) $\frac{5}{12}$ $\frac{7}{12}$

A. The first. B. The second. C. They are equal.

(b) $\frac{5}{12}$ $\frac{4}{9}$

A. The first. B. The second. C. They are equal.

(c) $\frac{5}{12}$ $\frac{5}{9}$

A. The first. B. The second. C. They are equal.

(d) $\frac{5}{7}$ $\frac{10}{14}$

A. The first. B. The second. C. They are equal.

(e) $-\frac{5}{12}$ $-\frac{7}{12}$

A. The first. B. The second. C. They are equal.

(f) $\left|-\frac{2}{3}\right|$ $\left|-\frac{1}{2}\right|$

A. The first. B. The second. C. They are equal.

2. Perform the following operations. Simplify your answers as much as possible:

   (a) $\frac{1}{8} + \frac{3}{8} =$

   (b) $\frac{5}{9} - \frac{8}{9} =$

   (c) $\frac{5}{6} - \frac{2}{3} =$

   (d) $\frac{3}{5} + \frac{7}{4} =$

   (e) $\left(-\frac{3}{5}\right) + \frac{7}{4} =$

3. Perform the following operations. Simplify your answers as much as possible:

   (a) $\frac{2}{3} \cdot \frac{9}{8} =$

   (b) $\frac{3}{4} \div \frac{15}{8} =$

   (c) $\dfrac{\frac{4}{5}}{\frac{7}{10}} =$

4. Perform the following operations. Simplify your answers as much as possible:

   (a) $-2 + 7 =$

   (b) $-2 + (-7) =$

   (c) $-2 - 7 =$

   (d) $-2 - (-7) =$

   (e) $2 - 7 =$

   (f) $2\,(-7) =$

   (g) $(-2)(-7) =$

   (h) $\frac{-24}{-36} =$

(i) $\dfrac{-24}{8} =$

(j) $(-3)^2 =$

(k) $-3^2 =$

(l) $(-1)^{2016} =$

5. Evaluate: $5 - 3(4 - 3) - 2^3 \div 8 \cdot 4 =$

6. Evaluate: $\dfrac{-16}{9} \cdot \dfrac{18}{-25} \cdot \left(-\dfrac{10}{6}\right) \cdot \dfrac{-5}{4} \cdot \dfrac{3}{4} =$

7. Evaluate: $\dfrac{-2^2 + 3(6 - 4)}{12 - (3 - 7)^2} =$