

Math 40 – Elementary Algebra

AMBER BUNTIN • FALL 2015

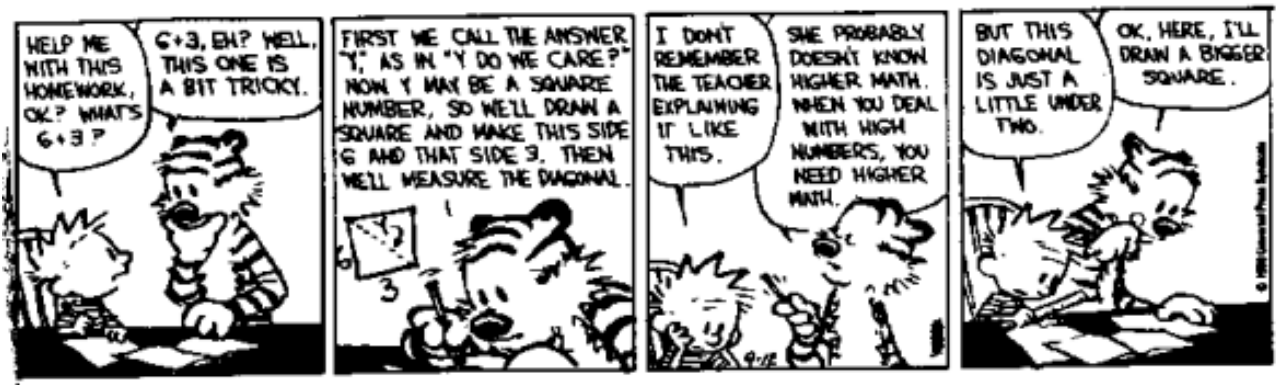
Exam#1

Name: _____ Date: 9.25.15

Instructions

- ✓ You have 50 minutes to complete the exam. Please read ALL instructions carefully;
- ✓ You may NOT use a calculator;
- ✓ Use **proper mathematical notation** on ALL problems
- ✓ You may NOT use any notes, book, or neighbors during the exam;
- ✓ Use only pencil and indicate answers by BOXING, CIRCLING, or HIGHLIGHTING;
- ✓ Be sure to show your work **NEATLY** and **CLEANLY** for each problem;
- ✓ You must show work to receive full credit and simplify all answers completely;
- ✓ Leave fractions as improper fractions if necessary (no mixed numbers);

CALVIN AND HOBBS By Bill Watterson



GOOD LUCK!!

Exam#1: (100 points) Show your work and clearly mark your answer **use proper mathematical notation**. No calculators allowed.

- (5^{pts}) **1.** Determine the value of each expression.
- a) $-(-36)$
- b) $-|-28|$
- (5^{pts}) **2.** Write the prime factorization of 240. Show work using a prime factor tree or some other method.
- (5^{pts}) **3.** Simplify completely.
- $-\frac{240}{26} \div \frac{36}{13}$
- (5^{pts}) **4.** Simplify the given expressions. If the answer does not exist or is undefined, write "undefined."
- a) $0 \div -5$
- b) $\frac{21}{0}$
- c) $0 \cdot 29$
- d) $-15 \div 0$
- (5^{pts}) **5.** Find the PERIMETER and AREA of a rectangle with a length of 13 feet and a width of 5 feet. Be sure to answer in a complete sentence using proper units.

(10^{pts}) **6.** Use order of operations to simplify the expressions:

a) $15 + 3(4 - 10)$

b) $4 + 6(7 - 5)^3 - 20$

(10^{pts}) **7.** Use order of operations to compute the exact value of each expression:

a) $48 \div 12 \cdot 2$

b) $20 - 4| - 30 + (-5)^2|$

c) $\frac{4 - 2[(2^2 - 5) - 6]}{8 - 26}$

(10^{pts}) **8.** Combine like terms and simplify completely:

a) $-7(6x - 8y) - 12(-2y + 3x)$

b) $-18\left(\frac{2}{9}a - \frac{5}{2}b\right)$

(10^{pts}) **9.** Evaluate the following expressions at the given value(s):

a) $x^2 - 3x + 16$ at $x = -2$

b) $2x^2 - 3xy - 4y^2$ at $x = -4$ and $y = -3$

- (10^{pts}) **10.** Use the following options to identify the property that justifies each statement and WRITE ONE LETTER NEXT TO EACH IDENTITY.

- a) Commutative property of addition
- b) Commutative property of multiplication
- c) Associative property of addition
- d) Associative property of multiplication
- e) Additive Identity
- f) Distributive property

$$8 \cdot (-2) = -2 \cdot 8 \quad \text{Letter:}$$

$$-3(6 \cdot 7) = (-3 \cdot 6) \cdot 7 \quad \text{Letter:}$$

$$0 + 23 = 23 \quad \text{Letter:}$$

$$7 + (-2) = -2 + 7 \quad \text{Letter:}$$

$$8(2y - 4) = 16y - 32 \quad \text{Letter:}$$

- (10^{pts}) **11.** Solve the following equations for x and show CHECK of your answers BY HAND:

a) $-10x - 3 = -12x - 5$

b) $1.7x - 13.5 = -15.2$

- (5^{pts}) **12.** Solve the equation for x and answer appropriately. CHECK IS NOT REQUIRED:

$$3(4y - 1) - 2 = 4(3y - 2) + 3$$

(10^{pts}) **13.** Solve the following equations for x CHECK IS NOT REQUIRED:

a) $\frac{3}{2}x + \frac{1}{3} = -\frac{1}{5}x - \frac{2}{3}$

b) $3(4x - 2) - (5x - 8) = 8 - (2x + 3)$

(3^{pts}) **14.** Extra Credit (No partial credit given): Solve the following equation and check answer IF YOU HAVE TIME. Answer as a decimal if needed and simplify answer completely.

$$6.9 - 7.2x = -5x - 3.3 - 4.2x$$