# PRACTICE EVALUATION A1 FOR INTEGRATED ALGEBRA 1 – FORM 1

Subunit A1: Lesson 1.1 (The Real Numbers)

## Ground Rules for Test Completion

1. Present your work in a neat and organized manner. Use complete sentences whenever you are asked to make a statement.
2. SHOW YOUR WORK: Partial credit will be awarded on the basis of the work shown.
3. Make sure you answer ALL parts of problems.

⇐ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ⇒

1. [15] Label each statement below as either True or False.

   a. $0 \leq 3$ b. $5 > 7$ c. $2 \neq 2$ d. $82 \leq 82$ e. $76 < 100$

2. [15] Find the absolute values:

   a. $|1.8|$ b. $|0|$ c. $|-5.2|$ d. $|12|$ e. $|-0.0001|$

3. [6] a. Write $4^5$ in Expanded Form. b. Evaluate $4^5$

4. [6] a. Write $2^7$ in Expanded Form. b. Evaluate $2^7$

5. [9] Rewrite each of the following using exponents:

   a. $10 \bullet 10 \bullet 10 \bullet 10 \bullet 10$ b. $17 \bullet 17 \bullet 42 \bullet 42 \bullet 42$ c. $2 \bullet 2 \bullet 2 \bullet 2 \bullet 3 \bullet 3 \bullet 8 \bullet 8 \bullet 8$

6. [12] Given the sets A and B below, determine whether the following statements are true or false.

   $A = \{0, 2, 4, 6, 8\}$

   $B = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$

   a. $6 \in A$ b. $A \not\subset B$ c. $12 \in B$ d. $A \subset B$

7. [16] Evaluate each of the following:

   a. $2^4 \cdot 5^2$ b. $|6^2| - |-3^4|$ c. $|-82| + |112|$ d. $|-82 + 112|$

8. [9] On a number line, X = –22 and Y = 37.

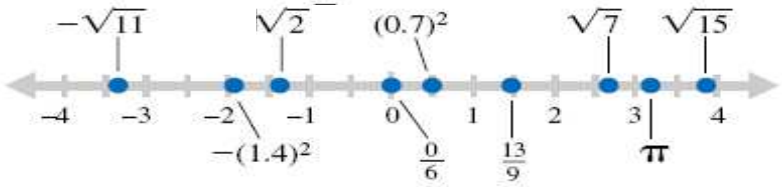
   a. Sketch a number line showing the origin and points X & Y.

   b. Use absolute value to an write expression that represents the distance between X and Y.

   c. What is the distance between points X & Y?

9. [6] C and D are two points on the number line. If C = 13.3 and the distance between the points is 11.5, what are the **two possibilities** for D?

10. [6] Find the points on the given number line below which have an absolute value ≥ 3.





R. E. Buzby – bbuzby@augustaschools.org or rebuzby@gmail.com

# PRACTICE EVALUATION A1 FOR INTEGRATED ALGEBRA 1 – FORM 1

Subunit A1: Lesson 1.1 (The Real Numbers)

## ANSWER KEY with SOLUTIONS TO SELECTED PROBLEMS

1. a. True  b. False  c. False  d. True  e. True

2. a. 1.8  b. 0  c. 5.2  d. 12  e. 0.0001

3. a. $4 \bullet 4 \bullet 4 \bullet 4 \bullet 4$  b. 1024

4. a. $2 \bullet 2 \bullet 2 \bullet 2 \bullet 2 \bullet 2 \bullet 2$  b. 128

5. a. $10^5$  b. $17^2 \bullet 42^3$  c. $2^4 \bullet 3^2 \bullet 8^3$

6. a. True  b. False  c. False  d. True

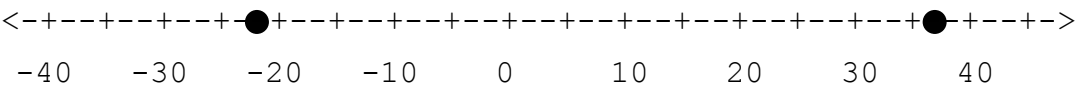
7. a. $2^4 \cdot 5^2 = 16(25) = 400$

   b. $\left| 6^2 \right| - \left| -3^4 \right| = \left| 36 \right| - \left| -81 \right| = 36 - 81 = 36 + {}^{-}81 = {}^{-}45$

   c. $\left| -82 \right| + \left| 112 \right| = 82 + 112 = 194$

   d. $\left| -82 + 112 \right| = \left| 30 \right| = 30$

8. a.

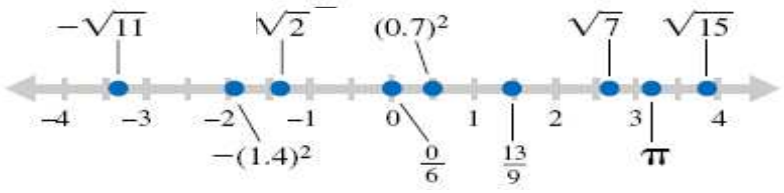



   b. $\left| {}^{-}22 - 37 \right|$ **or** $\left| 37 - {}^{-}22 \right|$

   c. $\left| {}^{-}22 - 37 \right| = \left| {}^{-}22 + {}^{-}37 \right| = \left| {}^{-}59 \right| =$ **59 or** $\left| 37 - {}^{-}22 \right| = \left| 37 + 22 \right| = \left| 59 \right| =$ **59**

9. D could be 11.5 units to the right of C, in which case **D = 13.3 + 11.5 = 24.8**
   **OR** D could be 11.5 units to the left of C, in which case **D = 13.3 – 11.5 = 1.8**

10. We want to identify all points on the number line below which have an absolute value ≥ 3. This means that the points have to be at least 3 units away from zero. **The points are:** $-\sqrt{11}$ **, π, &** $\sqrt{15}$






R. E. Buzby – bbuzby@augustaschools.org or rebuzby@gmail.com