PRACTICE CUMULATIVE EVALUATION A2 FOR INTEGRATED ALGEBRA 1 – FORM 1

Subunit A2: Lesson 1.2 (Factoring and Fractions) + Review of Subunit A1

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.

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Review and Extension Questions for Subunit A1:

1. [4] Complete the following statements.
   a. The symbol for **"not equal to"** is ___. b. The symbol for **"is less than or equal to"** is ___.
   c. The symbol $\notin$ means _____
   d. The symbol $>$ means _____

2. [3] Evaluate these absolute value: a. $|-3.607|$ b. $-|3.607|$ c. $|3.607|$

3. [6] a. Write 3^4 in Expanded Form. b. Evaluate 2^5.
   c, Write $5 \bullet 5 \bullet 5 \bullet 7 \bullet 7 \bullet 8 \bullet 8 \bullet 8 \bullet 8$ in Exponential Form.

4. [4] Given the sets C and D below, determine whether the following statements are true or false.

   $C = \{2, 4, 8\}$ $D = \{0, 2, 4, 6, 8\}$

   a. $3 \in D$ b. $C \not\subset D$ c. $2 \in C$ d. $C \subset D$

5. [8] Evaluate each of the following:
   a. $1^4 \bullet 5^0$ b. $|-5^2| + |2^5|$ c. $4^2 \bullet 3^4$ d. $|-42 + 25|$

6. [5] M & N are two points on the number line. If N = 4 and the distance between the points is 5…
   a. What are the **two possibilities** for M?
   b. Sketch a number line showing the origin and points M & N.

Questions from Subunit A2:

7. [6] Find the prime factorization of:
   a. 210 b. 405

8. [6] Using your results from Problem 7, find the GCF & LCM of 210 and 405.

9. [9] Find the prime factorization of:
   a. 154 b. 40 c. 363

10. [6] Using your results from Problem 9, find the GCF & LCM of 154, 40, and 363.

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11. [12] Perform the indicated operations. Write your answers in **lowest terms**.

a. $\frac{15}{16} - \frac{3}{4}$ b. $\frac{12}{25} \bullet \frac{15}{16}$ c. $\frac{5}{12} + \frac{13}{40}$ d. $\frac{9}{24} \div \frac{3}{4}$

12. [16] Perform the indicated operations. Write your answers in **simplest form**.

a. $1^3/_5 + 3^5/_7$ b. $10^1/_9 \div 7^7/_{12}$ c. $13^2/_{21} - 9^8/_9$ d. $2^3/_7 \bullet 4^2/_3$

Answer any 3 of the remaining 4 questions. Give your answers in complete sentences. *(You may do the remaining question for extra credit.)*

13. [5] One inch is equal to $2^{27}/_{50}$ centimeters. How many centimeters long is $5^3/_4$ inches? **Give your answer as a mixed number in lowest terms.**

14. [5] A recipe calls for $^1/_4$ lb of salmon for each serving. How many servings can she made with $3^1/_2$ pounds of salmon?

Use the following information for questions 15 & 16: Jerry went on a diet. During the first three months of his diet he lost $4^1/_4$ pounds, $3^1/_2$ pounds, and $2^1/_2$ pounds, respectively.

15. [5] Find the difference between Jerry's highest monthly weight loss and his lowest monthly weight loss. **Give your answer as a mixed number in lowest terms.**

16. [5] Find the total weight that Jerry lost in the first three months of his diet. **Give your answer as a mixed number in lowest terms.**

ANSWER KEY with SOLUTIONS TO SELECTED PROBLEMS

1a. $\neq$ 1b. $\leq$ 1c. "is not a member (or element) of" d. "is greater than"

2a. 3.607 2b. –3.607 2c. 3.607

3a. $3 \bullet 3 \bullet 3 \bullet 3$ 3b. $2 \bullet 2 \bullet 2 \bullet 2 \bullet 2 = 32$ 3c. $5^3 \bullet 7^2 \bullet 8^4$

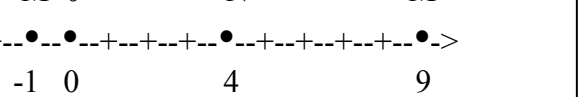
4a. False 4b. False 4c. True 4d. True

5a. $1^4 \bullet 5^0 = 1 \bullet 1 = 1$ 5b. $|-5^2| + |2^5| = |-25| + |32| = 25 + 32 = 57$

5c. $4^2 \bullet 3^4 = 16 \bullet 81 = 1296$ 5d. $|-42 + 25| = |-17| = 17$

6a. M = 4 + 5 = 1 OR M = 4 – 5 = –1

6b.



7a. $210 = 2 * 3 * 5 * 7$ 7b. $405 = 3 * 3 * 3 * 3 * 5$ 8a. GCF = $3 * 5 = 15$

8b. LCM = $(2 * 3 * 5 * 7) * (3 * 3 * 3) = 5670$ 9a. $154 = 2 * 7 * 11$

9b. $40 = 2 * 2 * 2 * 5$ 9c. $363 = 3 * 11 * 11$ 10a. GCF = 1 10b. LCM = 101,640

11a. $^3/_{16}$ 11b. $^9/_{20}$ 11c. $^{89}/_{120}$ 11d. $^1/_2$

12a. $5^{11}/_{35}$ 12b. $1^1/_3$ 12c. $3^{13}/_{63}$ 12d. $11^1/_3$

13. $14^{121}/_{200}$ inches 14. 14 servings 15. $1^3/_4$ lb. 16. $10^1/_4$ lb.

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