Pre-Algebra
Spiral Set E

Multiple Choice: Circle the letter of the correct answer. Show all necessary work in the space provided.

1. Bob buys eggs and potatoes at a store.

   - He pays a total of $25.92.
   - He pays $2.57 for the eggs.
   - He buys 5 bags of potatoes that each cost the same amount.

Which equation can be used to determine the cost, ***x***, of each bag of potatoes?

A. $x = (25.92 - 2.57) \div 5$ B. $x = 25.92 \div 5 + 2.57$

C. $x = (25.92 + 2.57) \div 5$ D. $x = 25.92 \div 5 - 2.57$

---

2. Which expression can go in the blank to make the equation true?

$$-4.5 + 4.4 + \_\_\_\_\_ = 0$$

A. $-6.7 + 6.8$ B. $-6.7 + (-6.6)$

C. $7.2 + (-7.2)$ D. $7.2 + (-7.3)$

---

3. At midnight, the temperature was –8°F. At noon, the temperature was 23°F. Which expression represents the increase in temperature?

A. –8 – 23 B. |–8|– 23

C. –8 – |23| D. |–8 – 23|

---

4. What is the value of **n** in the equation shown below?

$$2^2 \times 2^n = (2^4)^3$$

A. 5 B. 6

C. 10 D. 12

5. Which expression is equivalent to the expression shown below?

$$-\frac{1}{3}(6x + 15) - 3$$

A. $-2x + 12$

B. $-2x + 2$

C. $-2x - 2$

D. $-2x - 8$

---

6. What is the solution to the equation below?

$$5c + 4 = 2(c - 5)$$

A. $c = -4\frac{2}{3}$

B. $c = -3$

C. $c = -2$

D. $c = -\frac{1}{3}$

---

7. The mass of a dust particle is approximately 8×10^{-10} kilograms and the mass of an electron is approximately 1×10^{-30} kilograms. Approximately how many electrons have the same mass as one dust particle?

A. 8×10^{20}

B. 8×10^{21}

C. 8×10^{-40}

D. 1.25×10^{-21}

Extended Response: **Show all necessary work.**

8. Factor the expression $\mathbf{50y^3 + 75xy^5}$ by factoring out the GCF.

9. Determine the *smallest integer* that makes **$-3x + 7 - 5x < 15$** true.

10. Ben earns $10 per hour and $6 for each delivery he makes. He wants to earn more than $155 in an 8-hour workday. What is the ***least*** number of deliveries he must make to reach his goal?

    a) Write an inequality to model the situation. Use ***d*** to represent the number of deliveries.

    b) Solve your inequality.

    c) What is the least number of deliveries Ben can make to reach his goal?