Activity 5: Lovesick (Fill-in all the blanks and ovals!)

Directions: Analyze each equation, and determine what should be the next step in solving the problem. Solve each equation. Next to each equation are three choices. Each choice shows a first step and an answer. To solve the riddle find the choice which contains both the correct step and correct answer, and write its letter in the blank above the number for the problem.

1. $x + 9 = 18$ (R) $-9, x = 27$ (S) $-9, x = 9$ (T) $-18, x = -9$

2. $x - 13 = 16$ (H) $+13, x = 29$ (I) $+13, x = 3$ (A) $-16, x = 29$

3. $b + (-6) = 6$ (E) $+6, b = 12$ (O) $-6, b = 0$ (N) $-6, b = 12$

4. $b + (-12) = 21$ (R) $+21, b = 33$ (S) $-12, b = 9$ (T) $+12, b = 33$

5. $n + (-5) = -23$ (A) $+5, n = -18$ (O) $+23, n = -18$ (I) $+23, n = 28$

6. $y + (-8) = -12$ (N) $+8, y = -20$ (S) $-8, y = -20$ (K) $+8, y = -4$

7. $m - 27 = -63$ (A) $+27, m = -90$ (E) $+27, m = -36$ (O) $+63, m = -36$

8. $x - (-26) = 55$ (N) $+26, x = 91$ (S) $-26, x = 29$ (D) $-26, x = 91$

9. $y + (-47) = -74$ (N) $-47, y = -121$ (S) $-47, y = -27$ (T) $+47, y = -27$

10. $-33 = h + 16$ (H) $-16, h = -49$ (R) $+33, h = 49$ (O) $-16, h = -17$

11. $15 = a + 17$ (A) $-17, a = 2$ (E) $-17, a = -2$ (I) $-15, a = 2$

12. $5 + n = -13$ (N) $-5, n = -8$ (T) $+13, n = 18$ (S) $-5, n = -18$

13. $-13 + k = -37$ (N) $+13, k = -50$ (T) $+13, k = -24$ (L) $-13, k = -50$

14. $-11 + r = 29$ (O) $+11, r = 18$ (A) $+11, r = 40$ (I) $-29, r = 40$

15. $-23 = t - 81$ (D) $+23, t = -58$ (R) $+81, t = 58$ (I) $+23, t = 58$

16. $-8 + m = -22$ (T) $+22, m = 14$ (R) $+8, m = -30$ (E) $+8, m = -14$

17. $q + (-9) = 14$ (D) $+9, q = 5$ (S) $+9, q = 23$ (T) $-14, q = -23$

Question: How does the *Mona Lisa* travel?

S							
1	2	3	4	5	6	7	8

9	10	11	12	13	14	15	16	17

❑ Equations

An equation is a mathematical sentence which contains an expression and an equal sign. The equations below are solved by using inverse operations.

Example: Addition Equation

$$m + 6 = 12$$

Inverse Step—Subtraction

Solution: $m + 6 = 12$

$$\underline{\qquad -6 \quad -6 \qquad}$$ ←Step: Subtract 6

$$m = 6$$ ←Answer

Example: Subtraction Equation

$$h - 4 = 18$$

Inverse Step—Addition

Solution: $h - 4 = 18$

$$\underline{\qquad +4 \quad +4 \qquad}$$ ←Step: Add 4

$$h = 22$$ ←Answer

Example: Multiplication Equation

$$6y = 24$$

Inverse Step—Division

Solution: $6y = 24$

$$\frac{6y}{6} = \frac{24}{6}$$ ←Step: Divide by 6

$$y = 4$$ ←Answer

Example: Division Equation

$$m \div 3 = 14$$

Inverse Step—Multiplication

Solution: $\dfrac{m}{3} = 14$

$$3\left(\frac{m}{3}\right) = (14)(3)$$ ←Step: Multiply by 3

$$m = 42$$ ←Answer