NAME _____ DATE _____ PERIOD _____ NUMBER _____

Math 7A Chapter 8 Test

1. The table shows the membership cost for two CD clubs. How many CDs would you need to buy in a year in order for the total cost of both memberships to be the same?

CD Club Membership		
	Annual Fee	**Cost per CD**
Club #1	$50	$7.50
Club #2	$35	$8.00

$7.5x + 50 = 8x + 35$

$-7.5x \quad -7.5x$

$50 = 0.5x + 35$

$-35 \quad -35$

$\frac{15}{0.5} = \frac{0.5x}{0.5}$

$x = 30$

CHECK

$7.5(30) + 50 = 8(30) + 35$

$225 + 50 = 240 + 35$

$275 = 275$

30 CDS

2. On Monday, the price of a share of stock was \$79. It fell \$3 each day for 11 consecutive days. Which of the following expressions could you use to find the price of the stock on any one of those days?

A. $3d + 79$ **B.** $3d - 79$ **C.** $-3d + 79$ **D.** $-3d - 79$

3. SHORT RESPONSE Write an inequality to represent the graph below.

$x \leq -9$

4. The side lengths, in inches, of a triangle are $2x - 4$, $4x$, and $6(x + 2)$. The perimeter of the triangle is 74 inches. What is the length of the longest side of the triangle?

$2x - 4 + 4x + 6(x+2) = 74$

$2x - 4 + 4x + 6x + 12 = 74$

$12x + 8 = 74$

$-8 \quad -8$

$\frac{12x}{12} = \frac{66}{12}$

$x = 5.5$

① $2x - 4 = 2(5.5) - 4 = 11 - 4 = 7$ in

② $4x = 4(5.5) =$ 22in

③ $6(5.5+2) = 6(7.5) =$ 45in

74in

5. Which statement explains how to solve $\frac{4}{9}x = -\frac{81}{100}$?

A. Subtract $\frac{9}{4}$ from both sides. **C.** Multiply both sides by $\frac{4}{9}$.

B. Subtract $\frac{4}{9}$ from both sides. **D.** Multiply both sides by $\frac{9}{4}$.

D

6. Four students solved the equation $\frac{a-7}{10} = \frac{a-2}{8}$, but only one of their solutions checked. What is the correct solution to the equation?

A. $a = -18$ **B.** $a = 3$ **C.** $a = 11$ **D.** $a = 18$

$\frac{4}{\cancel{10}_1} \cdot \frac{a-7}{\cancel{10}_1} = \frac{a-2}{\cancel{8}_1} \cdot \frac{\cancel{5}}{\cancel{10}_1}$

$4(a-7) = 5(a-2)$

$4a - 28 = 5a - 10$

$-4a \quad -4a$

$-28 = a - 10$

$+10 \quad +10$

$-18 = a$

CHECK

$\frac{-18-7}{10} = \frac{-18-2}{8}$

$\frac{-25}{10} = \frac{-20}{8}$

$-\frac{5}{2} = -\frac{5}{2}$

A

7. Name the first step in solving $2x - 5 = 37$.

A. Add 5 to each side. **C.** Divide each side by $2x$.

B. Subtract 5 from each side. **D.** Multiply $2x$ to each side.

A

8. Solve the following equation:

$\frac{1}{9}x + 3 = -1$

$-3 \quad -3$

$9 \cdot \frac{1}{9}x = -4 \cdot 9$

$x = -36$

CHECK

$\frac{1}{9}(-36) + 3 = -1$

$-4 + 3 = -1$:)

$x = -36$

9. Which equation can be used to represent the sentence, *six less than the product of four and a number is –5*?

A. $6 - 4n = -5$ **C.** $4n - 5 = 6$

B. $-5 - 6 = -4n$ **D.** $4n - 6 = -5$

D

10. What is the solution of the equation $8x + 5 = 4x - 7$?

$-4x \quad -4x$

$4x + 5 = -7$

$-5 \quad -5$

$\frac{4x}{4} = \frac{-12}{4}$

$x = -3$

CHECK

$8(-3) + 5 = 4(-3) - 7$

$-24 + 5 = -12 - 7$

$-19 = -19$:)

$x = -3$

11. The English department at a high school is selling a collection of poems written by seniors for \$8. It costs \$300 to use the printer plus \$3.25 per book. If they print 600 books, how many do they have to sell to make at least \$2000?

x = Books

$8x \geq 2000 + 300 + 3.25(600)$

$2300 + 1950$

$\frac{8x}{8} \geq \frac{4250}{8}$

$x \geq 531.25$

2300
1950
4250

532 BOOKS

12. EXTRA CREDIT

$C = \frac{5}{9}(F - 32)$ can be used to convert temperatures in degrees Fahrenheit, F, to degrees Celsius, C.

Solve the formula for F to find a new formula that converts temperatures from Celsius to Fahrenheit. [You will be writing the formula into the form F =]

$\frac{9}{5} \cdot C = \frac{9}{5} \cdot \frac{5}{9}(F - 32)$

$\frac{9}{5}C = F - 32$

$+32 \quad +32$

$\frac{9}{5}C + 32 = F$

$F = 1.8C + 32$

$F = \frac{9}{5}C + 32$