Math 9 **PRACTICE TEST: SOLVING EQUATIONS**

A. SOLVE the following equations. (Show ALL your work!)

1. $15 = m - 4$

2. $x + 1 = -3$

3. $x - 5.5 = 12x$

4. $\frac{x}{2} = -6$

5. $4(x - 2) = x + 7$

6. $6(a + 2) = 9a - 9(2 - a)$

7. $1.4m + 1.2 = 0.63 + 1.5m$

8. $\frac{x}{5} + \frac{x}{8} = \frac{13}{2}$

9. $\frac{c+3}{4} - \frac{c+1}{2} = -4$

C. Application Problems (Remember to show all your work and write a conclusion for each question.)

1. The tallest tree in Canada is the Douglas fir at **136m.** This height is approximately **22m** higher than twice the height of the Horseshoe Falls at Niagara Falls. Solve the equation **2x + 22 = 136** to find the height of the Horseshoe Falls.

2. Draw and label a triangle whose sides are **2y + 1, 3y − 1, and y.**
If the perimeter of the triangle is **36m**, find the length of each side.

3. The mass of a snapping turtle is given by the expression **(3*x* + 1.7)*kg* w**hile the mass of the case used to ship the turtle is given by the expression **(*x* + 5.2)*kg*.** The TOTAL mass of the turtle and the case is **39.9*kg***. Determine *x* and use that value to find the mass of the **turtle**.

D Communication. *(Remember that you must write in complete sentences.)*

1. **Explain (using words) and show (using mathematical steps)** the strategies you would use to solve the following equation.

$$\frac{x-2}{4} - \frac{x-7}{3} = 1$$

2. Explain why it is useful to check your answer to an equation, then check your answer to the question above in the space below.