Simplify the following:

1) $2 + 3a + 9a$

2) $n + 4n - 7n - 1$

3) $(7x + 5) - (3x - 2)$

4) $-4 - 5(3x - 6)$

For each problem, determine if the equal sign is being used correctly. If it is, explain how you know. If it is not, write a NEW problem that does use the equal sign correctly.

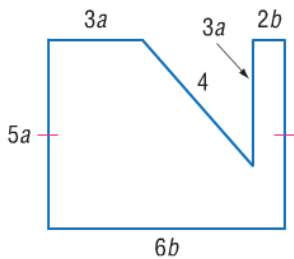5) $4 + 6 = 10 - 9 = 1 + 4 = 5$

6) $12 - 8 = 2 + 2 = 5 - 1 = 4$

For each problem, fill in the blanks so that the equal sign is being used correctly.

7) $7 + 3 =$ ____ $+$ _____ $=$ _____ $-$ _____ $=$ ____$\times$_____ $=$ _____

8) $8 +$ _____$=12 -$ _____$=-5 +$ _____$= 5$

9) Write an expression and simplify to determine the perimeter of the following figure:

10) Identify the expression that is not equivalent to the other three. Explain how you know.

| $x - 2 + 3x$ | $4(x - 2)$ | $-2 + 7x - 3x$ | $4x - 2$ |