Handout 1

Part 1: TRUE or FALSE? Also, for every item that is FALSE, if possible list any special cases for which it might be TRUE.

1. $\dfrac{3}{a} + \dfrac{3}{b} = \dfrac{3}{a+b}$

2. $\dfrac{a+b}{c+d} = \dfrac{a}{c} + \dfrac{b}{d}$

3. $\sqrt{a^2 - b^2} = a - b$

4. $(a - b)^2 = a^2 - b^2$

5. $\dfrac{a}{b} = \dfrac{a^2}{b^2}$

6. $\sqrt{a + b} = \sqrt{a} + \sqrt{b}$

7. $\dfrac{a+b}{b} = a$

8. $a(bc) = (ab)(ac)$

9. $\dfrac{1}{3}(-6)^3 = -2^3$

10.   If $x(x - 2) = 24$, either $x = 24$ or $(x - 2) = 24$