

Conditional Equations and Identities

Algebra 5/Trig

February 2, 2010

For each equation, state whether it is **always true** or just **sometimes true**. If the equation is only sometimes true, DO NOT SOLVE IT!

1. $x - 3 = 0$

2. $2x = 3x - x$.

3. $x^2 + 5x + 6 = 0$

4. $x^3 - 1 = 1$

5. $x^2 - 2x = x(x - 2)$

6. $(x - 1)(x + 1) = x^2 - 1$

7. $(x - 1)(x + 1) = -2x$

8. $5(x - 2) = 5x - 10$

9. $2^x = 1$

10. $2^{3x} = (2^x)^3$

11. $\ln(xy) = \ln(x) + \ln(y)$

12. $\ln(xy) = \ln(x) + 1$

13. $\sin \theta = 1/2$

14. $\sin^2 \theta = 3/4$

15. $\sin^2 \theta + \cos^2 \theta = 1$.

16. $\tan \theta = \frac{\sin \theta}{\cos \theta}$