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