

Here are 16 propositions involving a real number x .

By choosing p and q from this list, how many correct statements of the form $p \Rightarrow q$ or $p \Leftrightarrow q$ can you make?

| | | | |
|-----------------------------|---|-------------------|--------------------------|
| $x \int_0^x y dy < 0$ | $x > 1$ | $0 < x < 1$ | $x^2 + 4x + 4 = 0$ |
| $x = 0$ | $\cos\left(\frac{x}{2}\right) > \sin\left(\frac{x}{2}\right)$ | $x > 2$ | $x = 1$ |
| $2 \int_0^{x^2} y dy > x^2$ | $x < 0$ | $x^2 + x - 2 = 0$ | $x = -2$ |
| $x^3 > 1$ | $ x > 1$ | $x > 4$ | $\int_0^x \cos y dy = 0$ |

[Note: the trig functions are measured in radians]