Answer 53

53. The diagonal of a square has a measure of 12 inches. What is the perimeter, in inches, of this square.

A) 6√2
B) 72
C) 24√2
D) 144
E) 48

Since we're dealing with a square, to find the unknown sides we can use the Pythagorean Theorem:

$$x^2 + x^2 = 12^2$$

$$2x^2 = 144 \quad x^2 = 72 \; x = \sqrt{72} \; x = \sqrt{36 * 2} \; x = 6\sqrt{2}$$

Since this is a square and we're looking for the perimeter, we simply multiply that value by 4: $24\sqrt{2}$ which is answer C.