Indices Quiz

1. The statement $\left(x^a\right)^b = \left(x^b\right)^a$ is:

A **Always True**
B **Sometimes True**
C **Never True**

2. The statement $x = x^{-1}$ is:

A **Always True**
B **Sometimes True**
C **Never True**

3. The statement $x > x^{\frac{1}{2}}$ is:

A **Always True**
B **Sometimes True**
C **Never True**

4. The statement $x = \left(x^{-1}\right)^{-1}$ is:

A **Always True**
B **Sometimes True**
C **Never True**

5. If $\left(x^{\frac{1}{2}}\right)^{\frac{1}{2}} = 2$ then:

A $x = 64$ **B** $x = 4$
C $x = 2$ **D** $x = 16$

6. If $x^2 \times x^y \times x^{-3} = x^{-4} \times x^2 \times x^{2y}$ then:

A $y = 0$ **B** $y = -1$
C $y = 1$ **D** $y = \frac{1}{2}$

Extension Questions: the next two questions are optional

7. The following mathematical statements:
Statement 1: $x > 1 \Rightarrow x > x^{-1}$ and Statement 2: $x > x^{-1} \Rightarrow x > 1$ are:

A Both true **B** Both false
C 1 true but 2 false **D** 1 false but 2 true

8. If $\left(x^a\right)^b = x^a \div x^b$ then:

A $a = -b$ **B** $a = \frac{1-b}{b}$
C $a = \frac{b}{b-1}$ **D** $a = \frac{b}{1-b}$

Indices Quiz Solutions

1. A
2. B
3. B
4. A
5. D
6. C
7. C
8. D