Course: SAT ACT Prep | **Lesson Number:** **1**

Subject: Mathematical Reasoning | **Reference Number:** **1000-8**

Topic: Arithmetic

Subtopic: Rules of Exponents | *https://youtube.com/c/MrMattTheTutor*

Document: Quick Drill B Resource

1) If $4^{(x-4)} = 8^{-(x+6)}$, then what is the value of X?

   a) -5

   b) -2

   c) 2

   d) 5

2) If $4^{(-5x+15)} = 32^{-(x+3)}$, then what is the value of X?

a) 3

b) 6

c) 9

d) 12

3) If $27^{(8x-10)} = 81^{(3x+4.5)}$, then what is the value of X?

a) 2

b) 4

c) 6

d) 8

4) Which of the following expressions is equivalent to $(4X^2)^{\frac{-2}{3}}$?

a) $\left(\frac{1}{\sqrt[3]{2X}}\right)$

b) $\left(\frac{1}{\sqrt[3]{2X^2}}\right)$

c) $\left(\frac{1}{X\sqrt[3]{2X}}\right)$

d) $\left(\frac{1}{2X\sqrt[3]{2X}}\right)$

5) Which of the following expressions is equivalent to $(8X^2)^{\frac{-3}{2}}$?

a) $\left(\frac{\sqrt{2}}{32X^3}\right)$

b) $\left(\frac{\sqrt{2}}{8X^3}\right)$

c) $\left(\frac{\sqrt{2}}{16X^3}\right)$

d) $\left(\frac{\sqrt{2}}{4X^3}\right)$

6) Which of the following expressions is equivalent to $(9X^3)^{\frac{-3}{2}}$?

a) $\left(\frac{\sqrt{X}}{27X^2}\right)$

b) $\left(\frac{\sqrt{X}}{27X^3}\right)$

c) $\left(\frac{\sqrt{X}}{27X^4}\right)$

d) $\left(\frac{\sqrt{X}}{27X^5}\right)$