Name _____

# Solving Fractions With Exponents

Find the value of x.

| | |
|---|---|
| 1) $\left(\frac{2}{5}\right)^{7} \times \left(\frac{2}{5}\right)^{2} = \left(\frac{2}{5}\right)^{x}$<br><br>$x = 9$ | 2) $\left(\frac{3}{7}\right)^{10} \times \left(\frac{3}{7}\right)^{-3} = \left(\frac{3}{7}\right)^{x}$<br><br>$x = 7$ |
| 3) $\left(\frac{2}{9}\right)^{30} \times \left(\frac{2}{9}\right)^{24} = \left(\frac{2}{9}\right)^{2x}$<br><br>$x = 27$ | 4) $\left(\frac{5}{8}\right)^{12} \times \left(\frac{5}{8}\right)^{4} = \left(\frac{5}{8}\right)^{4x}$<br><br>$x = 4$ |
| 5) $\left(\frac{4}{5}\right)^{7} \div \left(\frac{4}{5}\right)^{4} = \left(\frac{4}{5}\right)^{x}$<br><br>$x = 3$ | 6) $\left(\frac{2}{7}\right)^{14} \div \left(\frac{2}{7}\right)^{2} = \left(\frac{2}{7}\right)^{2x}$<br><br>$x = 6$ |
| 7) $\left(\frac{3}{4}\right)^{6} \div \left(\frac{3}{4}\right)^{9} = \left(\frac{3}{4}\right)^{x}$<br><br>$x = -3$ | 8) $\left(\frac{5}{6}\right)^{4} \div \left(\frac{5}{6}\right)^{7} = \left(\frac{5}{6}\right)^{2x - 1}$<br><br>$x = -2$ |

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