Negative Integer Exponent

A. Choose the Correct Answer:

1. The value of $\left(\frac{2}{3}\right)^{-2}$ is:

a) $\frac{4}{9}$ b) $\frac{9}{4}$

c) $\frac{2}{9}$ d) $\frac{3}{2}$

2. $\left(\frac{5}{7}\right)^{-1}$ is equal to:

a) $\frac{7}{5}$ b) $\frac{5}{7}$

c) $\frac{1}{35}$ d) $\frac{7}{1}$

3. The value of $\left(\frac{3}{4}\right)^{-2}$ is:

a) $\frac{9}{16}$ b) $\frac{16}{9}$

c) $\frac{4}{9}$ d) $\frac{3}{16}$

4. $\left(\frac{2}{5}\right)^{-3}$ is:

a) $\frac{8}{125}$ b) $\frac{125}{8}$

c) $\frac{8}{25}$ d) $\frac{5}{2}$

5. $\left(\frac{7}{9}\right)^{-2}$ is equal to:

a) $\frac{81}{49}$ b) $\frac{49}{81}$

c) $\frac{7}{9}$ d) $\frac{9}{7}$

B. Write the Missing Terms to Complete the Sentences:

1. $\left(\frac{a}{b}\right)^{-n} = \frac{\dots}{a^n}$

2. $\left(\frac{3}{5}\right)^{-2} = \frac{\dots}{9}$

3. $\left(\frac{2}{7}\right)^{-1}$ = _____

4. Negative exponent indicates taking the _____ of the positive power

5. $\left(\frac{5}{8}\right)^{-3} = \frac{\dots\dots}{125}$

C. Figure out the answers to these questions:

1. Find the value of $\left(\frac{4}{5}\right)^{-2}$
2. Simplify $\left(\frac{2}{9}\right)^{-3}$ and express it as a fraction
3. Calculate $\left(\frac{5}{8}\right)^{-2}$
4. Find $\left(\frac{7}{11}\right)^{-1}$
5. Evaluate $\left(\frac{3}{7}\right)^{-3}$

D. Mark each sentence with a True (✓) or False (✗):

1. $\left(\frac{a}{b}\right)^{-n} = \left(\frac{b}{a}\right)^{n}$. _____
2. $\left(\frac{2}{3}\right)^{-2} = \left(\frac{3}{2}\right)^{2}$. _____
3. $\left(\frac{5}{7}\right)^{-2} = \frac{25}{49}$. _____
4. Negative exponents change the fraction by swapping numerator and denominator. _____
5. $\left(\frac{1}{2}\right)^{-3} = 2^{3}$. _____

E. Challenge yourself with these questions:

1. Find the value of $\left(\frac{5}{6}\right)^{-3}$
2. Simplify $\left(\frac{3}{8}\right)^{-2}$ and write as a fraction
3. Calculate $\left(\frac{4}{9}\right)^{-3}$
4. Find the reciprocal of $\left(\frac{2}{5}\right)^{2}$
5. Evaluate $\left(\frac{7}{10}\right)^{-2}$