Excellence

1. A student says the reciprocal of $\frac{4}{7}$ is $\frac{7}{4}$. Are they correct? Explain.

2. A student says the reciprocal of 6 is 6. Are they correct? Explain.

3. Fill in both blanks: $\frac{\square}{7}$ and $\frac{7}{\square}$ are reciprocals.

4. Fill in both blanks: if $\frac{5}{8}$ and $\frac{a}{b}$ are reciprocals, then $a =$ ____ and $b =$ ____.

5. Which pair are reciprocals: $\frac{3}{8}$ and $\frac{8}{3}$, or $\frac{3}{8}$ and $\frac{3}{8}$?

6. Write a number whose reciprocal is $\frac{4}{9}$.

7. Write a fraction whose reciprocal is 3.

8. Complete: the reciprocal of $\frac{m}{9}$ is $\frac{9}{m}$. If the reciprocal is $\frac{9}{4}$, then $m =$ ____.

9. If two numbers are reciprocals, what is their product?

10. Are $\frac{6}{11}$ and $\frac{11}{6}$ reciprocals? How do you know?

11. Which does not belong: $\frac{2}{3}, \frac{3}{2}, \frac{4}{5}, \frac{5}{4}$?

12. The reciprocal of a number is $\frac{7}{12}$. What is the number?

13. The reciprocal of a number is 5. What is the number?

14. A student writes $\frac{2}{9} \to \frac{9}{2}$ and $9 \to 9$. Explain why only one of these is correct.

15. Find a number whose reciprocal is smaller than $\frac{1}{4}$.

16. Explain why a number and its reciprocal switch places above and below the fraction bar.