

Name: Key

Period: _____

Homework: Converting Decimals to Fractions

Convert each decimal to a fraction. Be sure all answers are in simplest form.

1. 0.45

$$\frac{45}{100} \div 5 \quad \boxed{\frac{9}{20}}$$

2. $0.\overline{18}$

$$\frac{18}{99} \div 9 \quad \boxed{\frac{2}{11}}$$

3. $0.\overline{1}$

$$\boxed{\frac{1}{9}}$$

4. $0.1\overline{6}$

$$\begin{aligned} x &= 0.1\overline{6} \\ 10x &= 1.6\overline{6} \\ -x &= 0.1\overline{6} \\ \hline \end{aligned}$$

$$\frac{9x}{9} = \frac{1.5}{9}$$

$$x = \frac{15}{90}$$

$$\boxed{x = \frac{1}{6}}$$

5. $-5.\overline{3}$

$$\boxed{-5\frac{3}{10}}$$

6. $0.\overline{3}$

$$\frac{3}{9} \quad \boxed{\frac{1}{3}}$$

7. $0.\overline{63}$

$$\frac{63}{99} \div 9 \quad \boxed{\frac{7}{11}}$$

8. $0.\overline{4}$

$$\boxed{\frac{4}{9}}$$

9. 0.135

$$\frac{135}{1000} \div 5 \quad \boxed{\frac{27}{200}}$$

10. $0.02\overline{7}$

$$\begin{aligned} x &= 0.02\overline{7} \\ 10x &= 0.27\overline{7} \\ -x &= 0.02\overline{7} \\ \hline \end{aligned}$$

$$\frac{9x}{9} = \frac{.25}{9}$$

$$x = \frac{.25}{9} * 100 \frac{25}{900} \div 25 \quad \boxed{\frac{1}{36}}$$

11. $0.\overline{54}$

$$\frac{54}{99} \div 9$$

$$\boxed{\frac{6}{11}}$$

12. -3.875

$$-3 \frac{875}{1000} \div 25$$

$$-3 \frac{35}{40} \div 5$$

$$\boxed{-3\frac{7}{8}}$$

13. $0.\overline{90}$

$$\frac{90}{99} \div 9$$

$$\boxed{\frac{10}{11}}$$

14. $0.19\overline{4}$

$$\begin{aligned} x &= .19\overline{4} \\ 10x &= 1.9\overline{44} \\ -x &= .194 \\ \hline \end{aligned}$$

$$\frac{9x}{9} = \frac{1.75}{9}$$

$$x = \frac{175}{900} \div 25 \quad \boxed{\frac{7}{36}}$$

15. $0.41\overline{6}$

$$\begin{aligned} x &= .41\overline{6} \\ 10x &= 4.1\overline{66} \\ -x &= .41\overline{6} \\ \hline \end{aligned}$$

$$\frac{9x}{9} = \frac{3.75}{9}$$

$$x = \frac{375}{900} \div 75$$

$$\boxed{x = \frac{5}{12}}$$