NAME_____Period_____**SCORE_____/5**

Repeating Decimals → Fractions Worksheet

To convert $0.\overline{3}$ into a fraction, follow these steps:

Let $n = 0.\overline{3}$
$10\,n = 3.\overline{3}$

So, $10n = 3.\overline{3}$
$-\,n = -0.\overline{3}$
$\frac{9n}{9} = \frac{3}{9}$
$n = \boxed{\frac{1}{3}}$

To convert $0.\overline{27}$ into a fraction, follow these steps:

Let $n = 0.\overline{27}$
$100\,n = 27.\overline{27}$

So, $100n = 27.\overline{27}$
$-\,n = -\,0.\overline{27}$
$\frac{99n}{99} = \frac{27}{99}$
$n = \boxed{\frac{3}{11}}$

For #1 – 6, convert each decimal into a fraction.

1. 0.25 = _____ **2.** $0.\overline{5}$ = _____ **3.** $2.\overline{3}$ = _____

4. 4.125 = _____ **5.** $9.\overline{45}$ = _____ **6.** 0.45 = _____

7. Some people say that $\pi = \frac{22}{7}$. Without using the values of these numbers, explain why this statement is not true.

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