**Recurring Decimal Proof**

Which if the following fractions is equivalent to a recurring decimal?

(a) $\frac{7}{10}$ (b) $\frac{7}{9}$ (c) $\frac{7}{100}$

(d) $\frac{7}{11}$ (e) $\frac{7}{20}$ (f) $\frac{7}{30}$

Using an algebraic method, write the following recurring decimals as a fraction.

(a) $0.\dot{4}$ (b) $0.\dot{8}$

(c) $0.\dot{1}\dot{3}$ (d) $0.\dot{4}\dot{5}$

(e) $0.\dot{5}\dot{7}$ (f) $0.\dot{4}1\dot{2}$

(g) $0.\dot{1}2\dot{7}$ (h) $0.\dot{6}7\dot{5}$

Using an algebraic method, write the following recurring decimals as a fraction.

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(c) $0.2\dot{3}$ (d) $0.1\dot{6}$

(e) $0.2\dot{1}\dot{7}$ (f) $0.00\dot{4}\dot{5}$

(g) $0.0\dot{1}5\dot{5}$ (h) $0.3\dot{6}9\dot{5}$

Use an algebraic method to show that:

(a) $0.\dot{1}\dot{5}=\frac{5}{33}$

(b) $0.\dot{1}4\dot{4}=\frac{16}{111}$

(c) $0.7\dot{1}=\frac{32}{45}$

Using an algebraic method, find $0.\dot{9} $as a fraction.

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