Converting recurring decimals to fractions

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Name:

Convert these recurring decimals into fractions (leaving the answers in their simplest form:

a) $0.\dot{2}$

$$\frac{2}{9}$$

b) $0.\dot{5}$

$$\frac{5}{9}$$

c) $0.2\dot{1}$

$$\frac{19}{90}$$

d) $0.3\dot{4}$

$$\frac{31}{90}$$

e) $0.\dot{3}\dot{6}$

$$\frac{4}{11}$$

f) $0.\dot{2}\dot{4}$

$$\frac{8}{33}$$

g) $0.8\dot{3}\dot{6}$

$$\frac{46}{55}$$

h) $0.1\dot{1}\dot{5}$

$$\frac{19}{165}$$

i) $0.\dot{1}5\dot{4}$

$$\frac{154}{999}$$

j) $0.\dot{0}2\dot{3}$

$$\frac{23}{999}$$

k) $0.0\dot{5}1\dot{5}$

$$\frac{103}{1998}$$

l) $3.4\dot{6}3\dot{6}$

$$\frac{5767}{1665}$$

Exam question:

Use algebra to prove that $0.2\dot{6} = \frac{4}{15}$

$x = 0.26666\ldots$

$10x = 2.6666\ldots$

$9x = 2.4$

$$x = \frac{2.4}{9} = \frac{24}{90} = \frac{4}{15}$$