

CHECK IN

(1) Leaving your answer as a fraction in its simplest form, solve:

(a) $9x = 5$

(b) $90x = 33$

(c) $990x = 123$

(2) Write each of these numbers to 6 decimal places

(a) $0.\dot{3}$

(b) $0.1\dot{3}$


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

(c) $0.10\dot{3}$

(d) $0.1\dot{0}\dot{3}$

(e) $0.10\dot{3}$

Gabriella has answered this question correctly

Convert $0.\dot{2}$ into a fraction without using your calculator 

$$x = 0.\dot{2}$$

$$x = 0.22222 \dots \quad \textcircled{1}$$

$$10x = 2.22222 \dots \quad \textcircled{2}$$

$\textcircled{2} - \textcircled{1}$

$$9x = 2$$

$$\div 9 \quad \div 9$$

$$\underline{\underline{x = \frac{2}{9}}}$$

Study the solution carefully and answer these questions

- (1) Why has Gabriella multiplied equation $\textcircled{1}$ by 10?

- (2) What if the question was:
Convert $0.\dot{4}$ into a fraction?
How would this change the solution?

Convert the following to a fraction without using your calculator

1) $x = 0.\dot{8}$

Solution:

$$x = 0.888 \dots \quad (1)$$

$$10x = 8.888 \dots \quad (2)$$

(2) - (1)

$$9x = 8$$

$$x =$$

Convert the following to a fraction without using your calculator

$$2) \quad x = 0.5\dot{3}$$

Solution:

$$x = 0.53333 \dots \quad (1)$$

$$10x = 5.3333 \dots \quad (2)$$

$$100x = 53.3333 \dots \quad (3)$$

$$(3) - (2)$$

$$90x =$$

$$x =$$

Convert the following to a fraction without using your calculator

$$3) \quad x = 0.\dot{6}\dot{7}$$

Solution:

$$x = 0.676767 \dots \quad (1)$$

$$10x = 6.76767 \dots \quad (2)$$

$$100x = 67.6767 \dots \quad (3)$$

Convert the following to a fraction without using your calculator

$$4) \quad x = 0.\dot{5}1\dot{3}$$

Solution:

$$x = 0.513513 \dots (1)$$

Convert the following to fractions without using your calculator

5) $x = 0.6\dot{1}\dot{3}$

6) $x = 0.72\dot{4}$

7) $x = 1.3\dot{2}$

8) $x = 5.\dot{4}1\dot{4}$

<https://donsteward.blogspot.com/2017/02/recurring-decimals.html>

CHECK OUT

(1) Convert the following into fractions, without using a calculator

(a) $0.\dot{7}$

(b) $0.\dot{1}4$

(c) $0.81\dot{6}$

(2) Show that $0.2\dot{7}\dot{6} = \frac{137}{495}$

(3) Given that x and y are both positive integers smaller than 10.
Write $0.\dot{x}\dot{y}$ as a fraction

(4) Tyler says

"0.9 is equal to 1"

Show that this statement is true.