

Repeating Decimals to Fractions Homework

1) Which number is equivalent to the repeating decimal $0.\overline{242}42242...$?

A $\frac{24}{100}$

B $\frac{242}{999}$

C $\frac{242}{1000}$

D $\frac{2422}{9999}$

- 1) Identify digits repeating
- 2) Are repeating digits directly after decimal? Yes!
- 3) repeating #'s in numerator
- 4) 9's in denominator
* 3 9's because 3 digits repeat

2) Which of these is a rational number?

A $\sqrt{254}$ - Not perfect square

B $\frac{\sqrt{125}}{5}$ - Not perfect square

C $-\frac{\sqrt{4}}{2} = -\frac{2}{2} = -1$

D $-\sqrt{3}$ - Not perfect square

3) Which fraction is equivalent to $0.\overline{07}$?

A $\frac{7}{100}$

B $\frac{7}{99}$

C $\frac{7}{90}$

$\frac{07}{99} = \frac{7}{99}$

4) Which fraction is equivalent to $0.\overline{15}$?

A $\frac{5}{33}$

B $\frac{3}{20}$

C $\frac{1}{6}$

$\frac{15 \div 3}{99 \div 3} = \frac{5}{33}$

5) Which number below is irrational?

A $\sqrt[3]{8} = 2$

B $\sqrt[3]{125} = 5$

C $\sqrt{49} = 7$

D $\sqrt{52}$ - Not a perfect square

6) In which set(s) of numbers does the real number 0 belong?

irrational only - non-terminating, non-repeating

rational, whole, and natural counting #'s

rational, integer, and natural

D rational, integer, and whole

7) Which fraction is equal to $0.\overline{15}$?

A $\frac{11}{20}$

B $\frac{9}{20}$

C $\frac{5}{11}$

D $\frac{5}{9}$

$\frac{5}{9}$

8) Which fraction is equivalent to $3.\overline{33}$?

A $\frac{10}{3}$

B $\frac{36}{11}$

C $\frac{333}{100}$

D $\frac{91}{30}$

$3 \frac{33 \div 33}{99 \div 33} = 3 \frac{1}{3} = \frac{10}{3}$

9) Convert $0.\overline{67}$ to a fraction reduced to lowest terms. Show your work.

$\frac{67}{99}$ ← digits repeating

← two 9's, because two digits repeat

$$1) \frac{4}{9} \times \frac{2}{3} = \frac{4}{9} \times \frac{2}{3} = \frac{8}{27}$$

$$2) 1\frac{3}{5} \div 2.2$$

$$\frac{8}{5} \div 2\frac{2}{9}$$

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$$\frac{8}{5} \div \frac{20}{9}$$

$$\frac{8}{5} \times \frac{9}{20}$$

$$3) 1.\bar{3} + 2\frac{1}{18}$$

$$1\frac{3}{9} + 2\frac{1}{18}$$

$$\frac{12 \times 2}{9 \times 2} + \frac{37}{18} = \frac{24}{18} + \frac{37}{18}$$

$$= \boxed{\frac{61}{18}}$$

Practice

1) ~~_____~~
~~_____~~
~~_____~~
~~_____~~
~~_____~~
~~_____~~

Practice Addition Problems

$$2) \frac{x+2}{y-1} = 2 \quad \text{Solve for } x$$

$$(y-1) \frac{x+2}{y-1} = 2(y-1)$$

$$x+2 = 2y-2-2$$

$$\boxed{x = 2y - 4}$$

$$3. m = \frac{x+h}{p} \quad \text{Solve for } x$$

$$p \cdot m = \frac{x+h}{p} \cdot p$$

$$pm = x + h - h$$

$$\boxed{pm - h = x}$$

$$\frac{a-b}{x} = c \quad \text{Solve for } x$$

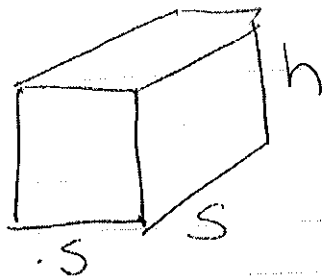
$$x \left(\frac{a-b}{x} \right) = (c)x$$

$$\frac{a-b}{c} = cx$$

$$\boxed{\frac{a-b}{c} = x}$$

$$\frac{a-b}{c} \div \frac{c}{c} = x$$

4.)



$$a.) A = 2s^2 + 4sh$$

b.) Find h

$$A = 2s^2 + 4sh$$
$$A - 2s^2 = 4sh$$
$$\frac{A - 2s^2}{4s} = \frac{4sh}{4s}$$

\therefore if $s = 10$ cm
 $A = 760$ what
is height.

$$\frac{A - 2s^2}{4s} = h$$

$$\frac{760 - 2(10)^2}{4(10)} = h$$

$$\frac{760 - 200}{40} = h$$

$$14 = h$$