Repeating Decimal Homework. Show your work.

1.

Which fraction represents a repeating decimal?

(A) $\frac{3}{11}$ $11\overline{)3.000}$ $.27$

B. $\frac{3}{10}$

C. $\frac{3}{8}$

D. $\frac{3}{5}$

2.

Which fraction is equivalent to $0.\overline{6}$?

A. $\frac{1}{16}$ $\frac{6}{9} = \frac{2(3)}{3(3)} = \frac{2}{3}$

B. $\frac{1}{6}$

C. $\frac{1}{3}$

(D.) $\frac{2}{3}$

3.

Which fraction is equivalent to a repeating decimal?

A. $\frac{1}{10}$ $10\overline{)1.0}$

(B.) $\frac{1}{15}$ $15\overline{)1.000}$ $= .0\overline{6}$

C. $\frac{1}{16}$

D. $\frac{1}{20}$

4.

Which number is equivalent to $2.\overline{42}$?

A. $\frac{1}{21}$ $2\frac{42}{99} = 2\frac{3(14)}{3(33)} = 2\frac{14}{33}$

B. $2\frac{21}{50}$

C. $2\frac{19}{45}$

(D.) $2\frac{14}{33}$

5.

Which rational number is equivalent to $0.\overline{36}$?

A. $\frac{4}{9}$ $\frac{36}{99} = \frac{4(9)}{11(9)} = \frac{4}{11}$

B. $\frac{11}{30}$

(C.) $\frac{4}{11}$

D. $\frac{9}{25}$

6.

A plant grew $1.\overline{3}$ inches within the first month and $0.\overline{5}$ of an inch within the next month. How many total inches did the plant grow in the first two months?

A. $1\frac{1}{8}$ $1.\overline{3} + 0.\overline{5}$

B. $1\frac{4}{5}$ $1\frac{3}{9} + \frac{5}{9}$

C. $1\frac{5}{6}$ $1\frac{8}{9}$

(D.) $1\frac{8}{9}$

7. CHANGE TO A REPEATING DECIMAL

a. $3.\overline{4} = 3\frac{4}{9} = \boxed{\frac{31}{9}}$

b. $.\overline{74} = \boxed{\frac{74}{99}}$

(C.) $.3\overline{9}$ $\times 10$ $3\frac{9}{9} = 3+1 = 4$?

D. $.8\overline{5}$ $\times 10$ $8.\overline{5} = 8\frac{5}{9} = \frac{77}{9} \div 10 = \frac{77}{9} \cdot \frac{1}{10} = \boxed{\frac{77}{90}}$

E. $1.09\overline{5}$ $\times 100$ $109.\overline{5} = 109\frac{5}{9} = \frac{986}{9} \div 100$

$\frac{986}{9} \times \frac{1}{100} = \frac{986}{900} = \boxed{\frac{493}{450}}$

8.

a. $1.\overline{3} \times \frac{1}{3} = 1\frac{3}{9} \times \frac{1}{3} = \frac{12}{9} \times \frac{1}{3} = \boxed{\frac{4}{9}}$ $\frac{\div(4)}{\div(1)}$

b. $.\overline{4} + 2\frac{3}{4} = \frac{4}{9} + 2\frac{3}{4} = \frac{4}{9} + \frac{11}{4}$

$= \frac{16}{36} + \frac{99}{36} = \boxed{\frac{115}{36}}$

C. $.0\overline{4} - 3\frac{2}{5}$ $\times 10$ IF YOUR ANSWER IS GIVEN IN THE FORM $\frac{a}{b}$ WITH NO COMMON FACTORS WHAT IS b?

$.\overline{4} - 3\frac{2}{5} = \frac{4}{9} - 3\frac{2}{5} = \frac{4}{9} \div 10 - 3\frac{2}{5}$

$= \frac{4}{9}\left(\frac{1}{10}\right) - 3\frac{2}{5} = \frac{4}{90} - \frac{17}{5} = \frac{4}{90} - \frac{306}{90}$

$= -\frac{302}{90} = \boxed{\frac{-151}{115}}$