**FRACTIONS AND DECIMALS**

Student:_____

1. Equivalent fractions
   a. Write an equivalent fraction for $\frac{40}{35}$ with a denominator of 21
   b. Work out the value of x so it is equal to: $\frac{8}{x}=\frac{20}{15}$
   *c.* Work out if these two fractions are equivalent: $\frac{4}{12}=\frac{5}{15}$
   *d.* What does it mean to say two fractions are equivalent?

2. Solve and simplify:
   a. $\frac{18}{5}-2+\frac{6}{9}=$
   b. $\frac{4}{8}\cdot\left(\frac{-3}{5}\right):\frac{2}{7}=$
   c. $\left(\frac{2}{3}\right)^{3}=$
   e. $\left(\sqrt{\frac{36}{100}}+1\right)^{-3}$
   d. $\left(\frac{1}{4}\right)^{-2}$

3. Write the following as a single power:
   a. $\left[\left(\frac{3}{4}\right)^{6}\right]^{2}:\left(\frac{3}{4}\right)^{8}=$
   c. $\frac{5^{-4}\cdot 15^{2}\cdot 27}{6^{3}\cdot 2^{-7}}$
   b. $\left(\frac{8}{3}\right)^{12}\cdot\left(\frac{18}{6}\right)^{12}=$

4. Solve and simplify:
   a. $\frac{18}{5}-\frac{4}{5}\cdot\left(\frac{1}{6}-\frac{1}{10}\right)+2=$
   c. $\sqrt{\frac{64}{81}}+\frac{7}{9}:\frac{5}{5}-\left(1-\frac{1}{4}\right)^{-2}=$
   b. $\frac{17}{2}+\frac{3}{2}\cdot\left(\frac{5}{3}\right)^{-2}-6\cdot\sqrt{\frac{1}{4}}+2=$

5. Every month, Iván is paid and divides the money up as follows: One third goes towards paying his rent, one quarter of what is left goes towards food, one fifth of what is left goes towards paying for transport and the five eights that remain are spent on his hobbies (music and reading etc). What fraction of Ivan's monthly payment is left to spend on his hobbies? If Ivan earns €1200 per month, how much does he spend on each thing?

6. Scientific notation (Standard form):
   *a.* Some bacteria weighs 0.0000000000021 g. Express the weight of 100 grams of bacteria in scientific notation. Then, express it in kilograms. *El peso de una bacteria es 0.0000000000021 g.*
   b. Express the distance between the Sun and the Earth (in meters), using scientific notation: 150.000.000 Km.

*7.* Approximate the following numbers to the nearest thousandth, hundredths and tenths using rounding.
   a. 18, 71498
   b. 0.07845

*8.* Express the following numbers as a fraction, and indicate which type of decimal numbers are they.
   a. 1.25
   b. $14,\overline{3}$
   c. $5,2\overline{58}$

Fill in the gaps:

a) In the fraction $\frac{a}{b}$, a is called the _____ and b is called the _____.

b) $\frac{2}{3}$ is read as _____, $\frac{7}{4}$ as _____and $\frac{4}{14}$ as _____.

c) There are three types of decimal numbers, they are: _____, 9.6 for example; _____, like $2.\overline{56}$ and _____ _____, $45.369\overline{75}$ for example.