MATHS & ENGLISH
WORKSHOP II

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Fractions and ordinals

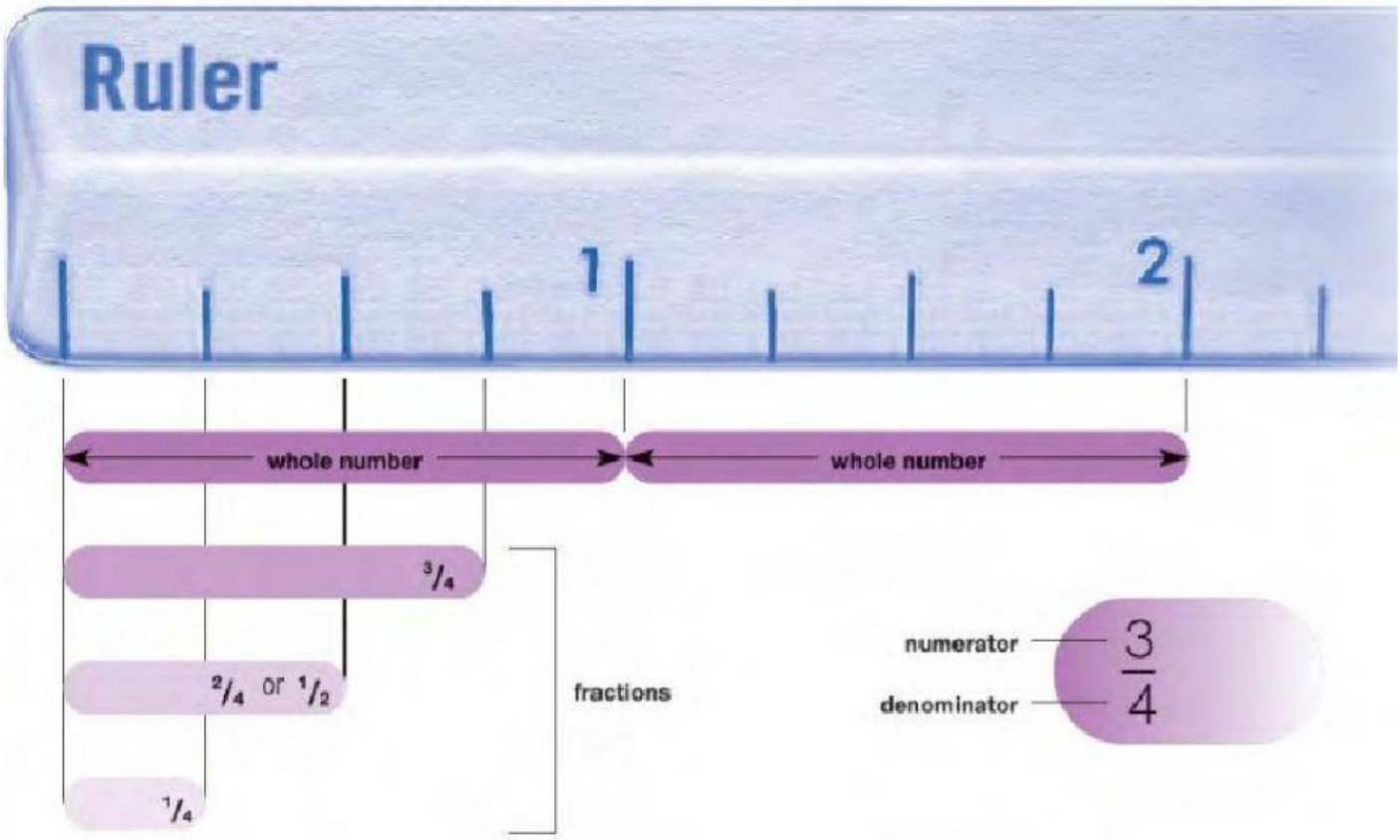
1) Study these words
   Inches
   Centimeters
   Half
   Quarter
   Units
   Scales

2) A. What is the numerator of a half?

   B. What is the numerator of three quarters?

3) Look at the diagram and read the text. What number system is the article about?

Binary - Fractions - Hexadecimals - Decimals - Percentages



In most technical subjects, like engineering, mathematics is very important. Mathematics is the study of numbers and spaces. In this unit we look at numbers. We will look at spaces in Unit 5.

There are two main kinds of numbers – **whole numbers** and **fractions**. Whole numbers are numbers like 1, 2, 3. We can also write whole numbers as **decimals**; for example, 1.0, 2.0, 3.0.

Fractions are numbers *between* whole numbers; for example, the numbers between 1 and 2. We can express them as **common fractions**. With common fractions, we have a number, then a line, then another number, like ¼ (a quarter), ½ (a half), ¾ (three-quarters). The number below the line is called the **denominator**. It shows how many pieces we are dividing the whole number into. The number above the line is called the **numerator**. It shows how many pieces of the denominator we have taken.

We can also express fractions as decimals. Decimals are based on the idea that any whole number can be divided into 100 parts. So ½ is 50 of these parts. We write it as 0.50 and say *nought point five* or *nought point five zero*. Note that we do not say, for example, *fifty* after a decimal point.

Fractions can also be expressed as **percentages**. Like decimals, percentages are also based on 100 but in this case we say ½ is the same as 50 out of 100, or 50 per cent. If you look closely, the % **symbol** for percentage looks like 100, written in a strange way.

4) Can you read these decimal numbers?

Common fractions	Decimal fractions	Percentages	Words
¼	0.25	25%	a quarter
½	0.50	50%	a half
⅓	0.333	33.3%	a third
¾	0.75	75%	three-quarters
⅔	0.666	66.7%	two-thirds
⅕	0.20	20%	a fifth
1/10	0.10	10%	a tenth
⅖	0.40	40%	two-fifths
1/20	0.05	5%	a twentieth

Cuando hablamos de fracciones, “A” significa uno

Cuando leemos decimales, “NOUGHT” significa “cero”

5) Expressing decimals and percentages:

What's one-third as a decimal fraction?

What's one-third as a percentage?

What is a fifth as a decimal fraction?

6)

Complete each sentence with a suitable word or number.

1 The symbol ¾ is a common _____.

2 0.25 is a _____ fraction.

3 The symbol % means _____.

4 In the fraction ½, the number _____ is the numerator.

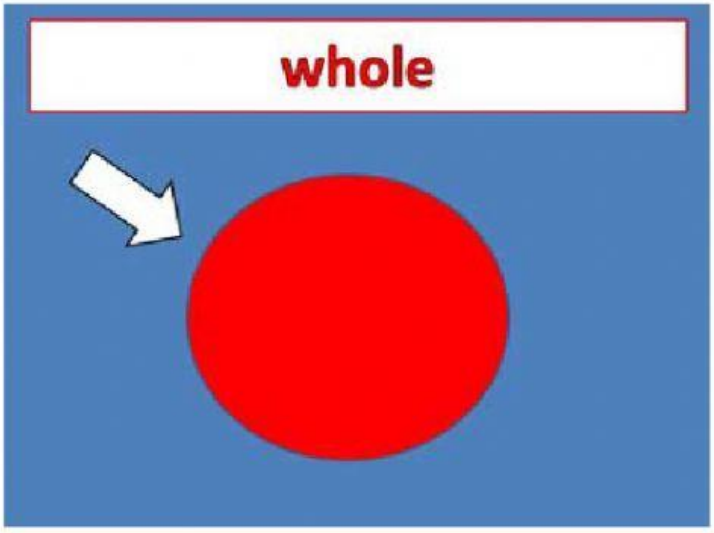
5 In the fraction ¼, the number _____ is the denominator.

6 The word for the fraction ⅓ is a _____.

7 The common fraction ⅕ is the same as _____%.

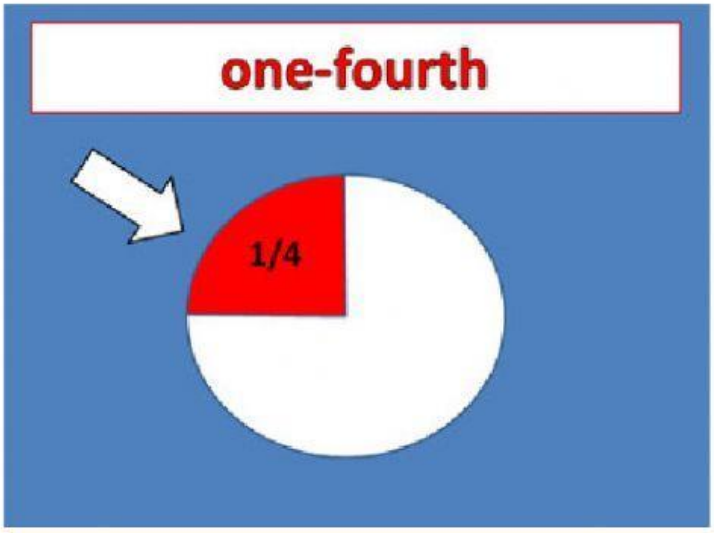
8 The decimal fraction 0.10 is the same as the common fraction ____

Vocabulary review:



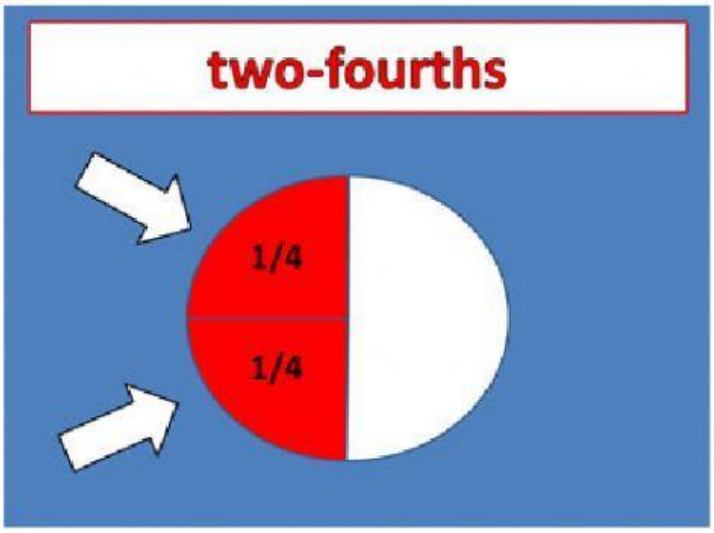
Whole

- This is a whole circle.
- It is one whole or *one* or *1*.
- We have *all* of the circle.



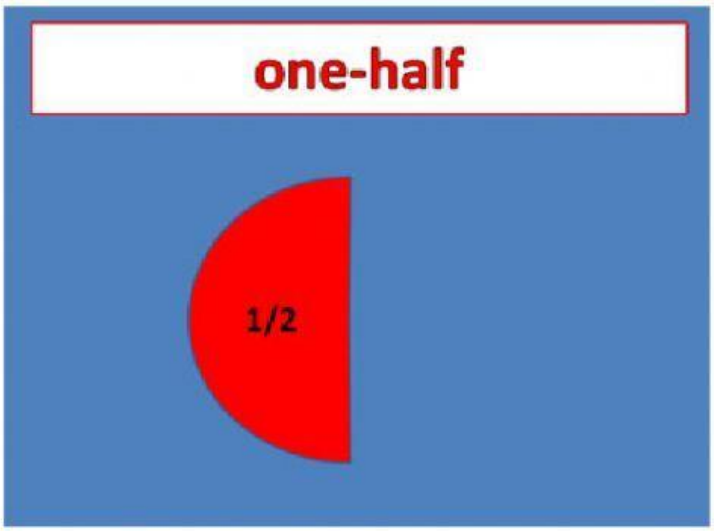
One-Fourth or one quarter

- **One-fourth can be written as 1/4.**
- **We cut the circle into four equal parts.**
- **One of those equal parts is one-fourth/ a quarter.**



Two-Fourths/ two quarters

- Two-fourths can be written *2/4*.
- If you cut a circle into four equal parts and you have two of them, then you have two-fourths.



One-Half

- One-half can be written as *1/2*.
- Two-fourths is the same as one half.