

1.	<b><u>Signs and Symbols</u></b>	1. <b><u>Sinais e Símbolos</u></b>
<b>+</b>	<b>ADDITION</b>	<b>ADIÇÃO</b>
	add	<i>juntar</i>
	plus	<i>mais</i>
	and	<i>e</i>
	total of	<i>o total de</i>
	increase by	<i>acrescentado por</i>
	sum of altogether	<i>asoma de tudo juntos</i>
<b>-</b>	<b>SUBTRACTION</b>	<b>SUBTRACÇÃO</b>
	subtract	<i>subtrair</i>
	minus	<i>menos</i>
	take away	<i>tirar</i>
	less	<i>menos de</i>
	decrease by	<i>decrecer por</i>
	reduce by from difference between	<i>reduzir por de a diferença entre</i>
<b>×</b>	<b>MULTIPLICATION</b>	<b>MULTIPLICAÇÃO</b>
	multiplied by	<i>Multiplicação por</i>
	times	<i>vezes</i>
	by	<i>por</i>
	groups of lots of the product of ( 3 x 4)	<i>grupos de conjuntos de o produto de</i>
<b>÷</b>	<b>DIVISION</b>	<b>DIVISÃO</b>
	divided by	<i>dividir por</i>
	into share	<i>em dividir</i>
<b>=</b>	equals	<i>igual a</i>
	is	<i>é</i>
	is the same as	<i>é o mesmo que</i>
	makes has the same value as	<i>faz tem o mesmo value que</i>

≈	is approximately	<i>é aproximadamente</i>
	about	<i>cerca de</i>
	close to	<i>perto de</i>
	nearly	<i>quase</i>
	around	<i>cerca de</i>
	almost the same as	<i>quase o mesmo que</i>
>	is more than	<i>é mais do que</i>
	is greater than	<i>é maior que</i>
	is bigger than	<i>é maior que</i>
<	is less than	<i>é menos que</i>
	is smaller than	<i>é menor que</i>
	is not as big as	<i>não é tão grande como</i>
≥	bigger than or equal to	<i>maior ou igual a</i>
≤	smaller than or equal to	<i>menor ou igual a</i>
%	per cent	<i>por cento</i>
:	ratio	<i>razão</i>
↻	clockwise	<i>no sentido dos ponteiros do relógio</i>
↺	anticlockwise counter clockwise	<i>no sentido contrário dos ponteiros do relógio</i>
√	root	<i>raíz quadrada</i>
∞	infinity	<i>infinito</i>

## 2. Area - Área

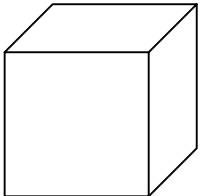
Area means how much space a flat (two dimensional) shape takes up. We measure area in square e.g. square centimeters ( $\text{cm}^2$ ).

*Área significa a quantidade de espaço que uma figura plana (bidimensional) ocupa. A área é medida em quadrados ( $\text{cm}^2$ ).*

1	2	3	4
5	6	7	8

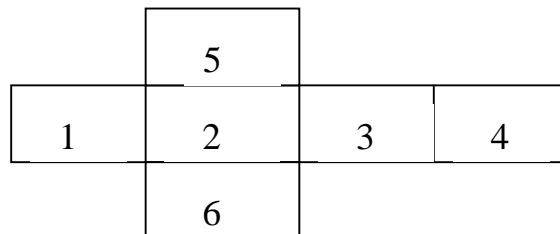
$$\begin{aligned}\text{Area} &= \text{length} \times \text{width} \\ &= 4\text{cm} \times 2\text{cm} \\ &= 8 \text{ cm}^2\end{aligned}$$

$$\begin{aligned}\text{Área} &= \text{comprimento} \times \text{largura} \\ &= 4\text{cm} \times 2\text{cm} \\ &= 8 \text{ cm}^2\end{aligned}$$



A cube has six faces. The surface area of a cube may be drawn like this:

*Um cubo tem seis faces. A área de superfície de um cubo pode ser desenhada desta forma:*



### 3. Volume - Volume

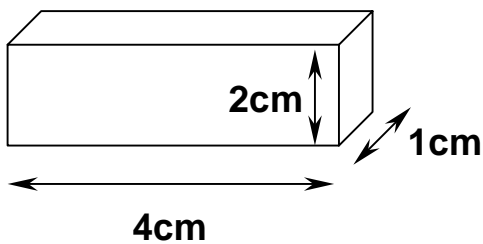
Volume means how much space a solid (3 dimensional) shape takes up. We measure volume in cubes. e. g.

**cubic centimeters (cm<sup>3</sup>).**

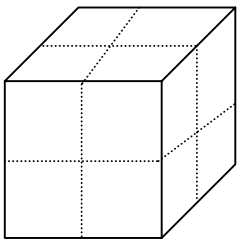
*U Volume significa a quantidade de espaço que uma forma sólida (tridimensional) ocupa. Mede-se o volume em cubos. Por exemplo: centímetros cúbicos (cm<sup>3</sup>).*

**Volume = length x width x height**

**Volume = comprimento x largura x altura**



$$V = 4 \times 1 \times 2$$
$$V = 8\text{cm}^3$$



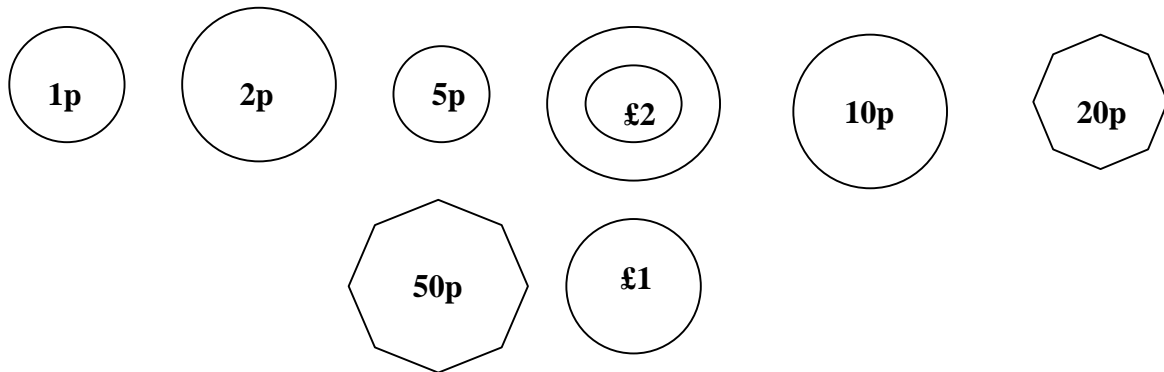
**This cube is made of eight centimeter cubes.  
Its volume is 8cm<sup>3</sup>.**

***Este cubo é feito de oito centímetros cúbicos.  
O seu volume é 8cm<sup>3</sup>.***

## 4. Money – Dinheiro

These are the coins used in Britain:

*Estas são as moedas usadas na Grã-Bretanha:*



One pound (£1) is 100 pence.

*Uma libea (£1) é 100 pence.*

These are the notes in use:

*Estas são as notas em uso:*



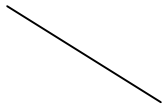
We usually write prices like this:

*Geralmente escreve – se os preços assim:*

**£2.99**

**£3.25**

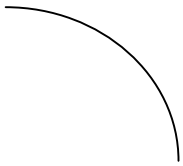
## 5. Lines - *Linhas*



straight line

-

*linha recta*



curved line

-

*linha curva*



horizontal line

-

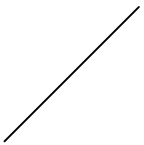
*linha horizontal*



vertical line

-

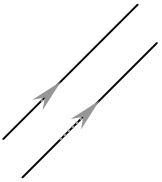
*linha vertical*



diagonal line

-

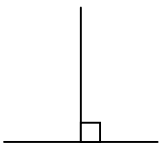
*linha diagonal*



parallel lines

-

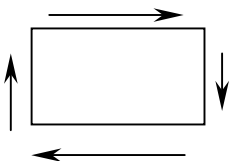
*linas paralelas*



perpendicular lines

-

*linhas perpendiculares  
(ânglulo recto)*

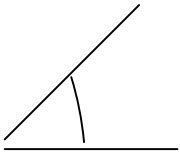


perimeter

-

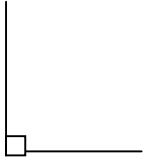
*perímetro*

## 6. Angles - Ângulos



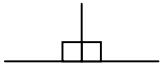
These two lines meet at an angle. An angle is measured in degrees ( $^{\circ}$ ).

*Estas duas linhas encontram-se num ângulo.*



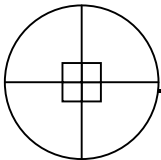
This is a right-angle. It is  $90^{\circ}$ .

*Este è um ângulo – re ctd . Te,  $90^{\circ}$ .*



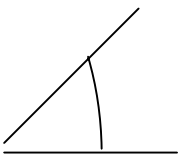
A straight line is made of two right angles. It is  $180^{\circ}$

*Uma linha recta é feita de dois ângulos rectos. Tem  $180^{\circ}$ .*



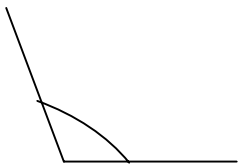
A circle is made of four right angles. It has  $360^{\circ}$

*Um circulo è feita de dois ângulos rectos. Tem  $360^{\circ}$ .*



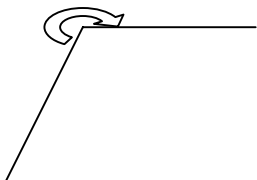
An angle which measures less than  $90^{\circ}$  is called an acute angle.

*Um ângulo cuja medida é menor que  $90^{\circ}$  é chamado ângulo agudo*



An angle which measures more than  $90^{\circ}$  is called an obtuse angle.

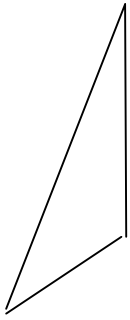
*Um ângulo cuja medida é chamado ângulo obtuso.*



An angle which measures more than  $180^{\circ}$  is called a reflex angle

*Um ângulo cuja medida é maior que  $180^{\circ}$  é chamado ângulo reflexo.*

## 7. Triangles - *Triângulo*

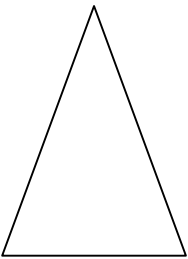


A triangle is a shape with 3 straight sides. It also has 3 angles. The points of a triangle are called vertices.

*Um triângulo é uma forma com 3 linhas (lados) rectos. Também tem 3 ângulos. Os pontos de um triângulo são chamados vértices.*

There are different types of triangles:  
*Hã diferentes tipos de triângulos:*

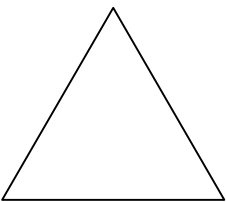
**Isosceles**  
*Isósceles*



Two sides are the same length. The two angles at the base are equal.

*Dois lados têm o mesmo comprimento. Os dois ângulos na base são iguais.*

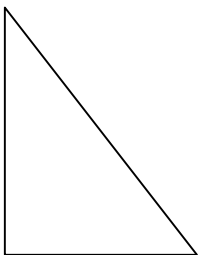
**Equilateral**  
*Equilátero*



All three angles are equal. All three sides are the same length.

*Os três ângulos são iguais. Os três têm o mesmo comprimento.*

**Right-angled**  
*Triângulo Rectângulos*



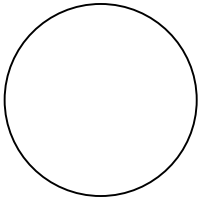
One of the angles measures  $90^\circ$ . The longest side is called hypotenuse.

*Um dos ângulos mede  $90^\circ$ . O lado mais longo é chamado hipotenusa.*

The angles of a triangle always add up to  $180^\circ$ .  
*Os ângulos de um triângulo somam sempre  $180^\circ$ .*

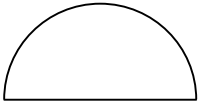


## 8. Circles - *Círculos*



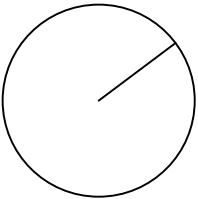
The perimeter of a circle is called the circumference.

*U perimetro de m circulo chama-se circunferência.*



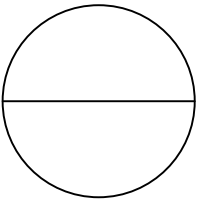
Half of a circle is called a semi-circle.

*Metade de um circulo chama-se semi-circulo.*



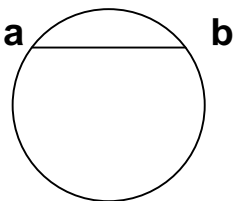
Any line from the center of a circle to the circumference is called radius.

*Qualquer linha do centro de um circulo para a circunferência chama-se raio.*



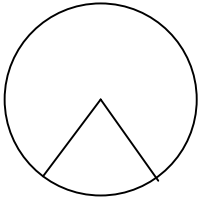
A straight line from one side of a circle to the other side through the center is the diameter.

*Uma linha recta que vá de um lado a outes de um circulo através do centro é o diâmetro.*



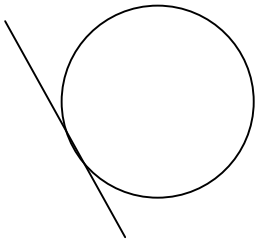
Part of the circumference is an arc. The straight line *ab* is a chord. The *a b* area is a segment.

*Parte de uma circunferência cham-se arco. A área a b é um segmento.*



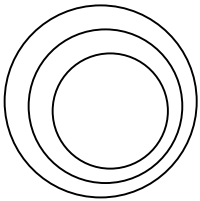
**An area of a circle enclosed by two radii and an arc is a sector.**

***A area contida entre dois raios de um circulo de um arco chama-se sector.***



**A line which touches the circumference at only one point is a tangent.**

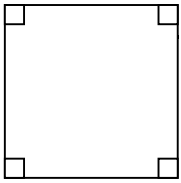
***A linha que toca a circunferência só dos seus pontos cham-se tangente.***



**Circles which have the same center are called concentric circles.**

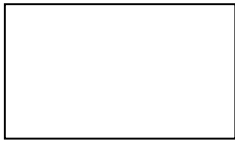
***Circulos que têm o mesmo centro chamam-se circulos concêntricos***

## 9. Shapes - Formas



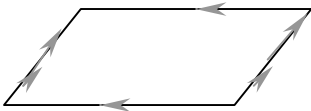
### Square

It has four equal sides and four right angles.  
*Tem quatro lados iguais e quatro ângulos rectos.*



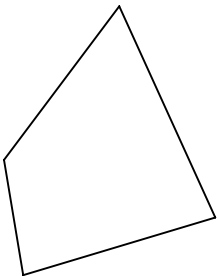
### Rectangle Rectângulo

It has four right angles and opposite sides are equal.  
*Tem quatro ângulos rectos e os lados opostos são iguais.*



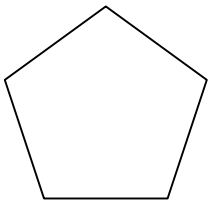
### Parallelogram Paralelograma

Opposite sides are parallel.  
*Us lados opostos são paralelos.*



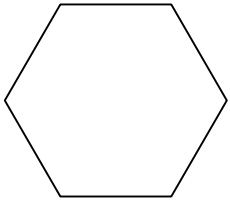
### Quadrilateral Quadrilátero

Any shape with four straight sides.  
*Qualquer forma com quatro linhas rectas.*



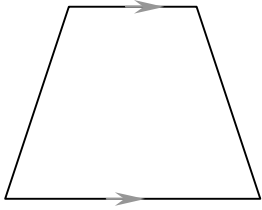
### Pentagon Pentágono

It has five sides and five angles.  
*Tem quatro lados e quatro ângulos.*



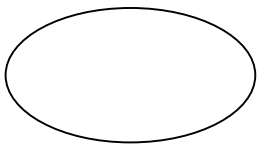
**Hexagon**  
**Hexágono**

It has six sides and six angles.  
*Tem seis lados e seis ângulos.*



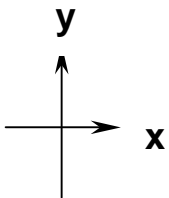
**Trapezium**  
**Trapézio**

One set of sides is parallel.  
*Um conjunto de lados é paralelo.*



**Ellipse**  
**Elipse**

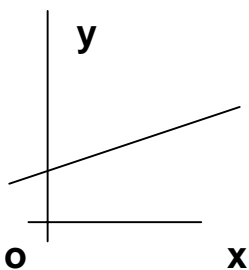
## **10. Graphs - Gráfico**



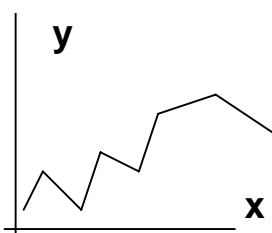
A graph has a vertical axis (y) and a horizontal axis (x).

*Um gráfico tem um eixo vertical (y) e um eixo horizontal (x).*

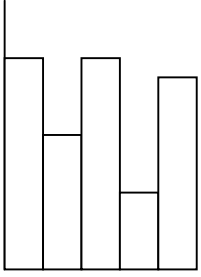
There are many different types of graphs or charts:  
*Há vários tipos de gráficos ou tabelas:*



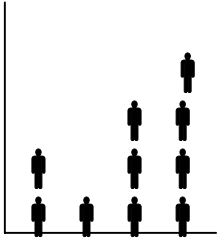
A straight-line graph.  
*Um gráfico de linha-recta.*



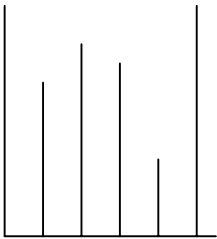
A graph plotting points.  
*Um gráfico de pontos.*



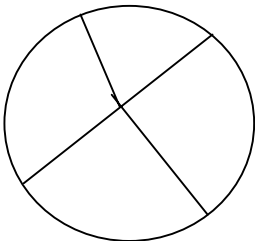
**A bar chart or block graph.**  
*Um gráfico de barras.*



**A pictogram.**  
*Um pictograma.*



**A column graph.**  
*Um gráfico de colunas.*



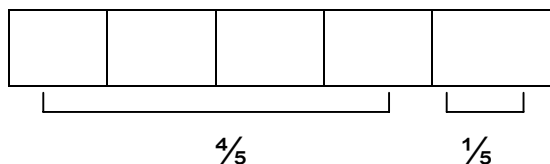
**A pie-chart is a circle divided into different sectors.**  
*Um gráfico circular é um círculo dividido em sectores.*

# 11. Fractions - Fracção

A fraction is a part of a whole.  $\frac{4}{5}$  is a fraction. It may be shown like this:

*Uma fracção è parte do todo.  $\frac{4}{5}$  è uma fracção.*

*Pode ser representada desta forma:*



Here is another fraction:  $\frac{2}{3}$

*Aqui está outa fracção:  $\frac{2}{3}$*

This means two parts out of three. We say two-thirds.

*Isto significa duas partes em três. Dit-se dois terços.*

The number at the top is called the Numerator.

*Um número no topo è chamado de Numerador.*

The number at the bottom is called the Denominator.

*U número e baixo è chamado Denominador.*

This is a mixed number:  $3\frac{1}{2}$

*Este è um número misto:  $3\frac{1}{2}$*

It is made of a whole number and a fraction. It may be written as an Improper Fraction: ~

*Èfeito de um número inteiro & de uma fracção. Pode ser escrita como uma fracção Imprópria:*

$$\begin{array}{rcl}
 3\frac{1}{2} & = & \frac{7}{2} \\
 \text{mixed number} & & \text{improper fraction} \\
 \text{número misto} & = & \text{fracção imprópria}
 \end{array}$$

Equivalent (equal) Fraction

*Fracções Equivalentes (iguais)*

$\frac{1}{2}$								$\frac{1}{2}$							
$\frac{1}{4}$				$\frac{1}{4}$				$\frac{1}{4}$				$\frac{1}{4}$			
$\frac{1}{8}$		$\frac{1}{8}$		$\frac{1}{8}$		$\frac{1}{8}$		$\frac{1}{8}$		$\frac{1}{8}$		$\frac{1}{8}$		$\frac{1}{8}$	
$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$

## **12. Decimals - Décimais**

Parts of a whole number can also be written as decimals:

*Partes de um número inteiro podem ser escritas como números decimais.*

$1/10$  is the same as 0.1

*$1/10$  é o mesmo que 0.1*

$1/4$  is the same as 0.25

*$1/4$  é o mesmo que 0.25*

$4\frac{1}{5}$  is the same as 4.2

*$4\frac{1}{5}$  é o mesmo que 4.2*

### **Percentages**

#### **Percentagens**

1% is one every 100

*1% é um em cada 100.*

1% is 1p in every pound

*1% é 1p em cada libra (£)*

1% is  $1/100$

*1% é  $1/100$*

1% is 0.01

*1% é 0.01eshte 0.01*

**Conversion Table**  
**Table de Conversão**

	<i>Fracção</i>	<i>Décimais</i>	<i>Percentagem</i>
half - <i>metade</i>	$\frac{1}{2}$		
quarter - <i>quarto</i>	$\frac{1}{4}$	0.5	50%
three-quarters - <i>três quartos</i>	$\frac{3}{4}$	0.25 0.75	25% 75%
One tenth - <i>uma décima</i>	$\frac{1}{10}$	0.1	10%
One fifth - <i>um quinto</i>	$\frac{1}{5}$	0.2	20%
One third <i>um terço</i>	$\frac{1}{3}$	0.33	33 $\frac{1}{3}$ %
Two thirds <i>dois terços</i>	$\frac{2}{3}$	0.67	66 $\frac{2}{3}$ %
One eighth <i>um oitavo</i>	$\frac{1}{8}$	0.125	12 $\frac{1}{2}$ %



### 13. Distances - Distância

#### Metric system Sistema Métrico

mm	-	millimetre	-	<i>milimetro</i>
cm	-	centimetre	-	<i>centrimetro</i>
m	-	metre	-	<i>metro</i>
km	-	kilometre	-	<i>kilómetro</i>

$$10\text{mm} = 1\text{cm}$$

$$100\text{cm} = 1\text{m}$$

$$1000\text{m} = 1\text{km}$$

#### Imperial system Sistema Imperial

in	-	inch	-	<i>polegadas</i>
ft	-	foot	-	<i>pé</i>
yd	-	yard	-	<i>jardas</i>
mi	-	mile	-	<i>milha</i>

$$12\text{ins} = 1\text{ft}$$

$$3\text{ft} = 1\text{yd}$$

$$1760\text{yds} = 1\text{mi}$$

#### Conversions Conversors

$$2\frac{1}{2}\text{cm} \cong 1\text{in}$$

$$1\text{m} \cong 1\text{yd}$$

$$1\text{km} \cong \frac{5}{8}\text{mi}$$

## **14. Capacity - Capacidade**

### **Metric system**

#### **Sistema métrico**

ml	-	millilitre	-	<i>milímetro</i>
cc	-	cubic centimetre	-	<i>centrímetro cúbico</i>
l./li	-	litre	-	<i>litro</i>

$$1 \text{ cc} = 1 \text{ ml} \qquad 1 \text{ l} = 1000 \text{ ml}$$

### **Imperial system**

#### **Sistemi imperial**

fl.oz	-	fluid ounce	-	<i>onça líquida</i>
pt	-	pint	-	<i>pinto</i>
gal	-	gallon	-	<i>galão</i>

$$\begin{aligned} 20 \text{ fl oz} &= 1 \text{ pt} \\ 8 \text{ pts} &= 1 \text{ gal} \end{aligned}$$

### **Conversions**

#### **Conversors**

$$\begin{aligned} 1 \text{ litre} &= 1\frac{3}{4} \text{ pints} \\ 1 \text{ litro} &= 1\frac{3}{4} \text{ pintos} \\ 1 \text{ gal} &= 4\frac{1}{2} \text{ litres} \\ 1 \text{ galao} &= 4\frac{1}{2} \text{ litros} \end{aligned}$$

## **15. Weight - Peso**

### **Metric system**

### **Sistema metrico**

mg.	-	milligram	-	<i>miligrama</i>
g	-	gram	-	<i>grama</i>
kg	-	kilogram	-	<i>kilograma</i>

		1000mg	=	1g		
		1000g	=	1kg		
1000kg	=	1 tonne (ton)	=			1 tonelada

### **Imperial system**

### **Sistema imperial**

oz.	-	ounce	-	<i>onça</i>
lb.	-	pound	-	<i>libra</i>
st.	-	stone	-	<i>stona</i>

16oz	=	1lb
14lb	=	1st

### **Conversions**

### **Conversors**

1oz	=	28g
1kg	=	2 $\frac{1}{3}$ lb

## **16. Time - Tempo**

### **Units of Time**

### **Unidades de Tempo**

s	=	second	=	<i>segundo</i>
<i>min</i>	=	<i>minute</i>	=	<i>minuto</i>
h	=	hour	=	<i>hora</i>
wk	=	week	=	<i>semana</i>
yr	=	year	=	<i>ano</i>
p.a.	=	per year	=	<i>p.a. – por ano</i>
60s	=	1min	=	<i>1 min</i>
24h	=	1 day	=	<i>1 dia</i>
52wks	=	1 year	=	<i>1 ano</i>
60mins	=	1 hour	=	
7days	=	1 week	=	<i>1 dias</i>
12 months	=	1 year	=	<i>12 meses</i>

### **Calendar Months**

### **Meses do Calendário**

30 days has September, April, June and November  
*30 dias tem Setembro, Abril, Junho e Novembro.*

All the rest have 31  
*U resto tem 31*

Except February all alone which has 28 days clear and 29 in each leap year.  
*Excepto fevereiro e mais nenhum que tem dias ou 29 cada ano bissexto.*

## 17. Temperature - Temperatura

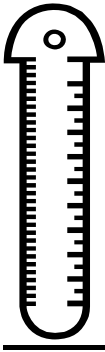
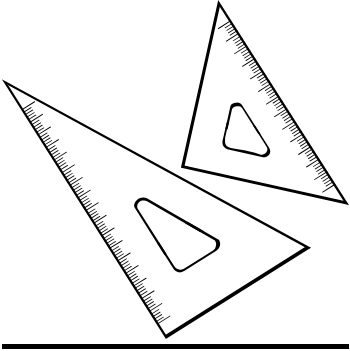
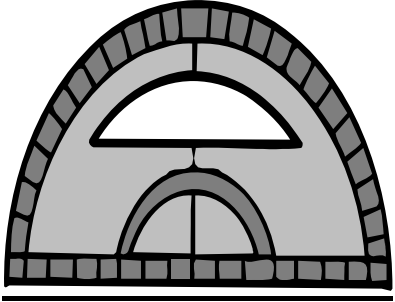
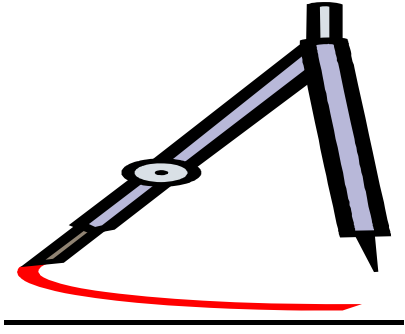
100°	boiling point	=	<i>ponto de fervura</i>
37°	body temperature	=	<i>temperatura corporal</i>
0°	freezing point	=	<i>ponto de congelamento</i>

Temperature is usually measured in °C (degrees Celsius)  
*A temperatura é geralmente medida em °C (graus centígrados).*

Sometimes °F (Fahrenheit) is used.  
*As vezes °F (Fahrenheit) é também usado.*

0°C	=	32°F
100°C	=	212°F

## 18. Instruments - Instrumentos

<p><b>ruler</b></p>		<p><i><b>régua</b></i></p>
<p><b>set square</b></p>		<p><i><b>esquadro</b></i></p>
<p><b>protractor</b></p>		<p><i><b>transferidor</b></i></p>
<p><b>compasses</b></p>		<p><i><b>compasso</b></i></p>