Numbers

Vocabulary

number – something (such as coins or bills) used as a way to pay for goods and services and to pay people for their work

cardinal number – a number denoting quantity (one, two, etc.)

ordinal number – a number defining the position of something in a series (first, second, etc.)

Cardinal Numbers (How many?)		Ordinal Numbers (Which?)	
0	zero/oh/nought		
1	one	1st	first
2	two	2nd	second
3	three	3rd	third
4	four	4th	fourth
5	five	5th	fifth
6	six	6th	sixth
7	seven	7th	seventh
8	eight	8th	eighth
9	nine	9th	ninth
10	ten	10th	tenth
11	eleven	11th	eleventh
12	twelve	12th	twelfth
13	thirteen	13th	thirteenth
14	fourteen	14th	fourteenth
15	fifteen	15th	fifteenth
16	sixteen	16th	sixteenth
17	seventeen	17th	seventeenth
18	eighteen	18th	eighteenth
19	nineteen	19th	nineteenth
20	twenty	20th	twentieth

21	twenty-one	21st	twenty-first
22	twenty-two	22nd	twenty-second
23	twenty-three	23rd	twenty-third
24	twenty-four	24th	twenty-fourth
25	twenty-five	25th	twenty-fifth
26	twenty-six	26th	twenty-sixth
27	twenty-seven	27th	twenty-seventh
28	twenty-eight	28th	twenty-eighth
29	twenty-nine	29th	twenty-ninth
30	thirty	30th	thirtieth
31	thirty-one	31st	thirty-first
40	forty	40th	fortieth
50	fifty	50th	fiftieth
60	sixty	60th	sixtieth
70	seventy	70th	seventieth
80	eighty	80th	eightieth
90	ninety	90th	ninetieth
100	one hundred	100th	one hundredth
1,000	one thousand	1,000th	one thousandth
1,000,000	one million	1,000,000th	one millionth
1,000,000,000	one billion	1,000,000,000th	one billionth
1,000,000,000,000	one trillion	1,000,000,000,000th	one trillionth

If we use the numbers in the hundreds, there is a difference depending on the variant of English we use:
136 = one hundred **and** thirty-six (BrE)one hundred thirty-six (AmE)

In English, we separate thousands with a comma (,):
54,000 – fifty-four thousand
$2,564,138 – two million, five hundred (and) sixty-four thousand, one hundred (and) thirty-eight dollars

fractions – a numerical quantity that is not a whole number (e.g. ½, 0.3, etc.)
½ – a/one half

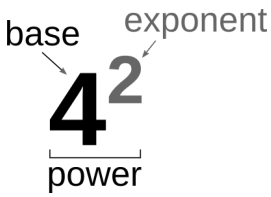
⅓ – a/one third
⅔ – two third**s**
¼ – a/one quarter
¾ – three quarter**s**
⅕ – a/one fifth
⅖ – two fifth**s**
⅛ – an/one eighth
⅜ – three eighth**s**
1½ – one and a half
7⅔ – seven and two third**s**

The noun that comes after "one and a half" is plural:
We've been waiting here for one and a half **hours**. (We've been waiting here for an hour and a half.)
We walked one and a half **miles** in rain. (We walked a mile and a half in the rain.)

decimal – a fraction whose denominator is a power of ten and whose numerator is expressed by figures placed to the right of a decimal point. We use a point (.) to indicate a decimal number.
0.5 – nought/zero point five
11.93 – eleven point nine three
68.27 – sixty-eight point two seven

A point (.) is also used to indicate money (such as dollars and cents).
$1.50 – one dollar, fifty (cents)/one fifty
$11.99 – eleven dollars, ninety-nine (cents)/eleven ninety-nine
$68.75 – sixty-eight dollars, seventy-five (cents)/sixty-eight seventy-five
$900.00 – nine hundred dollars
$2,100.50 – two thousand, one hundred dollars, fifty (cents)/twenty-one hundred and fifty cents

a power – an expression that represents repeated multiplication of the same factor.
an exponent – a small number written to the right and above the base number that shows how many times to use the number in a multiplication.



5^2 – five squared
7^3 – seven cubed

3^4 – three to the power of four

percentage/percent sign (%) – used to indicate a number or ratio as a fraction of 100

7% – seven percent
16% – sixteen percent
Twenty-eight percent of our citizens voted for that party.
What percentage voted for that party? Twenty-eight (percent).

Arabic numerals – any of the number symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
Roman numerals – any of the letters representing numbers in the Roman numerical system: I = 1, V = 5, X = 10, L = 50, C = 100, D = 500, M = 1,000.

We can use upper-case letters (capitals) or lower-case letters (small letters) when writing Roman numerals:
V = v = 5

A letter placed after another of greater value adds:
XVII (10+5+2) = xvii = 17

A letter placed before another of greater value subtracts:
XC (100-10) = xc = 90

Letters can be repeated one or two times to increase value:
XX – 20, XXX – 30

However, letters cannot be repeated three times. In this case, we place a letter before another one of greater value:
XXXX – 40 (10+10+10+10) (incorrect)
XL – 40 (50-10) (correct)

Arabic Numerals	**Roman Numerals**	
	upper-case letters	lower-case letters
1	I	i
2	II	ii
3	III	iii
4	IV	iv
5	V	v
6	VI	vi

7	VII	vii
8	VIII	viii
9	XV	xv
10	X	x
11	XI	xi
12	XII	xii
13	XIII	xiii
14	XIV	xiv
15	XV	xv
16	XVI	xvi
17	XVII	xvii
18	XVIII	xviii
19	XIX	xix
20	XX	xx
21	XXI	xxl
30	XXX	xxx
40	XL	xl
50	L	l
60	LX	lx
70	LXX	lxx
80	LXXX	lxxx
90	XC	xc
100	C	c
200	CC	cc
300	CCC	ccc
400	CD	cd
500	D	d
1000	M	m

plus/addition sign (+)
minus/subtraction sign (-)

times/multiplication sign (x)
division sign (÷ or /)
equals sign (=)

Operation	What we say/write	What we write	What we say	Result
addition	plus (+)	2 + 4 = 6	two plus four equals six	sum
subtraction	minus (-)	9 - 8 = 1	nine minus eight equals one	difference
multiplication	times (x)	7 x 3= 21	seven times three equals twenty-one	product
division	divided by (÷ or /)	12 / 4= 3	twelve divided by four equals three	quotient /ˈkwəʊʃənt/

What we say/write	What we write	What we say
less than (<)	3 < 4	three is less than four
greater than (>)	4 > 3	four is greater than three
not equal to (≠)	x ≠ z	x is not equal to z
approximately equal to (~)	x ~ z	x is approximately equal to y
greater than or equal to (≥)	x ≥ z	x is greater than or equal to z
less than or equal to (≤)	z ≤ x	z is less than or equal to x
square root (√)	√81 = 9	the square root of eighty-one is/equals nine

measurement – the size, length, or amount of something, as established by measuring or a unit or system of measuring
unit – an individual thing or person regarded as single and complete but which can also form an individual component of a larger or more complex whole
length – the measurement or extent of something from end to end
weight– a body's relative mass or the quantity of matter contained by it
capacity – the maximum amount that something can contain
customary system – the main system of weights and measures used in the U.S. and a few other countries. It is based on the yard as a unit of length, the pound as a unit of weight, and the gallon as a unit of liquid volume

Length	Weight/Mass	Capacity

1 foot (ft) = 12 inches (in)	1 pound (lb) = 16 ounces (oz)	1 pint (pt) = 2 cups
1 yard (yd) = 3 feet	1 ton (T) = 2,000 pounds	1 quart (qt) = 2 pints
1 yard = 36 inches		1 quart = 4 cups
1 mile = 1,760 yards		1 gallon (gal) = 4 quarts
1 mile = 5,280 feet		

metric system – the decimal measuring system based on the meter, liter, and gram as units of length, capacity, and weight or mass. It is used by nearly 95% of the world population.

Length	Weight/Mass	Capacity
1 centimeter (cm) = 10 millimeters (mm)	1 gram (g) = 1,000 milligrams (mg)	1 liter (L) = 1,000 milliliters (mL)
1 decimeter (dm) = 10 centimeters	1 kilogram (kg) = 1,000 grams (g)	1 deciliter (dL) = 100 milliliters (mL)
1 meter (m) = 10 decimeters		
1 kilometer (km) = 1,000 meters		

Customary System	Metric System
Length	
1 inch (in)	2.54 centimeters (cm)
1 foot (ft)	0.30 meter (m)
1 yard (yd)	0.91 meter (m)
1 mile (mi)	1.61 kilometers (km)
Weight/Mass	
1 pound (lb)	453.6 grams (g)
1 pound (lb)	0.4536 kilograms (kg)
1 ton (T)	907.185 kilograms (kg)
Capacity	
1 cup (c)	236.59 milliliters (mL)

1 pint (pt)	473.18 milliliters (mL)
1 quart (qt)	946.35 milliliters (mL)
1 gallon (gal)	3.79 liters (L)

phone number – a number assigned to a telephone line for a specific phone or set of phones (as for a residence) that is used to call that phone

digit – any of the numerals from 0 to 9, especially when forming part of a number

local – relating to a particular region or part, or to each of any number of these

754-4532 – seven-five-four four-five-three-two

555-3056 – five-five-five three-**oh**-five-six/five-five-five three-**zero**-five-six

domestic – existing or occurring inside a particular country (the opposite of foreign or international)

area/dialing code – a three-digit code that identifies one of the telephone areas into which the U.S. and certain other countries are divided and that precedes the local telephone number when dialing a call between areas

(541) 754-4532 – five-four-one seven-five-four four-five-three-two

international call – a call made between different countries

country code – a short alphabetic or numeric geographical code developed to represent a country and a dependent area (used in data processing and communications)

+**1-541-754-4532** – one five-four-one seven-five-four four-five-three-two

bouquet – an attractively arranged bunch of flowers, especially one presented as a gift

emoji – a small digital image or icon used to express an idea, emotion, etc., in electronic communication

cheesy – cheap, unpleasant, or blatantly inauthentic OR too emotional or romantic

tin (BrE)/**pan** (AmE) – a metal container without a lid used for cooking food in the oven

tablespoon (tbsp) – a large spoon for serving food

creepy-crawly (informal) – a spider, worm, or other small, flightless creature, especially when considered unpleasant or frightening

homesick – experiencing a longing for one's home during a period of absence from it

Verbs

to tone something down – to make something less extreme or intense

to look something up – search for and find a piece of information in a book or somewhere else

to mix someone/something up – to confuse someone or something with another person or thing

to plan something out – to make detailed preparations for something in the future
to save something up – to keep or store something so that you can use it in the future
to convert something – to change from one type of system or organization to another, or to make something do this

Phrases

Come to think about/of it, ... – used when an idea or point occurs to one while one is speaking
That'll do. (informal) – used to acknowledge something as being sufficient
I'm up for it. (informal) – used to indicate that you are willing to try doing something

Grammar Corner

We can use second conditionals to describe hypothetical situations. We often use *"If I were you, I would do something..."* to express our opinion or to give advice. In this case, the form *were* of the verb *to be* is used even with the 1st and 3rd person in the *if* clause.
*e.g. If I **were** you, I wouldn't buy this $200 watch.*
*If I **were** you, I would definitely buy one more chair.*

In informal situations we can also contract the following verbs: *want to – wanna, have got to – gotta, going to – gonna.* These contractions are used only in colloquial speech.
e.g. They don't wanna give me a 10% raise since I've only worked here for 3 years.
You're not gonna cut down your expenses by buying a third car.
I gotta go, I'm meeting up with Claire in half an hour.

Real Life Situations

(P1 – Person 1, P2 – Person 2)

Birthday Party
P1: Jane's birthday is coming up.
P2: Yeah, do you have any ideas? I feel like we've already done everything. Getting a bouquet with 30 yellow roses, a giant teddy bear one year, 16 muffins with cute emojis on them for her 16th birthday. I'm out of ideas.
P1: Come to think about that, wasn't it super cheesy?
P2: Definitely. The level of cheesiness was turned up to 11, but she likes that.
P1: You don't think it's a good idea to tone it down a bit?
P2: If I were planning on throwing a birthday party for you, I would choose something different. However, we're talking about Jane here, she's gonna love that.

P1: What do you mean exactly?
P2: Let's order 50 balloons and put them everywhere around the house?
P1: 50? That's a lot.
P2: OK, maybe 40? And I'd like them to be delivered early in the morning as well.
P1: Let's look up the price then. Her birthday is on 14 June, right?
P2: No, no, Helen's birthday is on 14 June, Jane's is on 16 June.
P1: Ah, right, I always mix those up. Alright, 40 balloons for 16 June… do we need a card?
P2: Nah, I'm gonna buy one.
P1: Flowers?
P2: Nah, just balloons. That'll do.
P1: Well, that's $137. And they're charging extra for morning delivery. Did you know that?
P2: Extra?
P1: Yeah, their ordinary delivery is $30, but if we want that to be delivered by 11 a.m., that'll be an additional $15.
P2: So that's like $190?
P1: $182 to be precise.
P2: Well, I hope Jane likes that!

Chocolate Cake

P1: Now that we have a birthday party planned out, let's think of a cake.
P2: Oh, I know! We need to bake one!
P1: Can you bake?
P2: Yeah, I did some baking at high school. It's not as hard as you think.
P1: I mean… I'm up for anything as long as you're the one doing the baking part.
P2: I think I had a recipe saved up. Do we have a 20cm round tin?
P1: Yeah, I think so.
P2: Good. So we'll need 200g sugar, 200g unsalted butter, 4 eggs, 200g flour, 2tbsp cocoa powder, 1 tsp baking powder, ½ tsp vanilla extract, 2 tbsp milk, and some salt.
P1: These are pretty standard ingredients, nothing fancy.
P2: Yeah, it's perfect. We'll need 350g chocolate though.
P1: That's fine, it's not like we need 1kg chocolate. What kind of chocolate do we actually need?
P2: 250g dark chocolate, 40g milk chocolate, and 60g white chocolate. The last two are mainly for decoration.
P1: Ah, it makes sense. Our budget is about $60 for a cake.
P2: That'll do, no worries.

(Not) The Same

P1: What's the scariest thing you've ever seen?
P2: A spider when I was 12 and staying at my grandma's place. That thing was terrifying. It was like 5 inches big.

P1: 5 inches? That’s nothing.
P2: Are you kidding me? That spider was huge! It’s a little smaller than your palm.
P1: Ahh, I totally forget about inches. Shouldn’t we multiply it by 1.4?
P2: No, more like 2.5.
P1: That makes more sense.
P2: So my grandma lives in Florida, and they have tons of creepy-crawlies like that.
P1: How do you get there? By plane?
P2: No, we usually go on a road trip. That’s about 680 miles, Atlanta to Miami.
P1: That’s not that far. Probably takes about 6 hours to get there?
P2: More like 10 hours. Man, what’s wrong with you today?
P1: What do you mean?
P2: You’re back to your European units.
P1: I don’t know, maybe I’m homesick and keep converting everything in my head automatically?
P2: You had 3 cups of tea today, that might be it!
P1: This is the weirdest explanation I’ve ever heard.