

# Long Multiplication Algorithm

[ian.mcloughlin@gmit.ie](mailto:ian.mcloughlin@gmit.ie)

## Long multiplication

			1	0	2	4
×				1	2	8
			8	1	9	2
		2	0	4	8	0
+	1	0	2	4	0	0
	1	3	1	0	7	2

## Algorithm

```
right align
```

```
for each bottom digit:
```

```
new line, append zeros
```

```
for each top digit:
```

multiply

```
if carried digit:
```

add

```
if greater than 9:
```

carry tens digit

```
print units digit
```

add

## Long multiplication

					1	0
					2	4
×					1	2
					8	
					8	1
					9	2
					2	0
					4	8
					0	0
+					1	0
					2	4
					0	0
					0	0
					1	3
					1	0
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		2	0	4	8	0	
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