Multiplying decimals by 10, 100 and 1,000

1 Complete the multiplications.

a)

H	T	O	•	Tths	Hths
		3	•	7	

$3.7 \times 10 =$ 37

b)

H	T	O	•	Tths	Hths
	1	4	•	5	

$14.5 \times 10 =$ 145

c)

H	T	O	•	Tths	Hths
		1	•	5	8

$1.58 \times 10 =$ 15·8

d)

H	T	O	•	Tths	Hths
	1	3	•	0	6

$13.06 \times 10 =$ 130·6

What do you notice when you multiply a number by 10?

2 Complete the multiplications.

a) $1.7 \times 10 =$ 17

b) $1.75 \times 10 =$ 17·5

c) $1.73 \times 10 =$ 17·3

d) $13.4 \times 10 =$ 134

e) $10 \times 13.04 =$ 130·4

f) $130.4 \times 10 =$ 1,304

3 Complete the multiplications.

a)

H	T	O	•	Tths	Hths
		4	•	1	

$4.1 \times 100 =$ 410

b)

H	T	O	•	Tths	Hths
		4	•	1	5

$4.15 \times 100 =$ 415

c)

H	T	O	•	Tths	Hths
	1	4	•	5	

$14.5 \times 100 =$ 1,450

d)

H	T	O	•	Tths	Hths
		4	•	0	5

$4.05 \times 100 =$ 405

What do you notice when you multiply a number by 100?

4 Complete the calculations.

a) $7.2 \times 100 =$ 720

b) $3.4 \times 100 =$ 340

c) $19.5 \times 100 =$ 1,950

d) $1.89 \times 100 =$ 189

e) $73.57 \times 100 =$ 7,357

f) $1.317 \times 100 =$ 131·7

5 Amir has multiplied 3.8 by 1,000
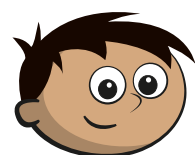
> The answer is 3.8000

a) What mistake has Amir made?

He has just added zeros.

b) Work out the correct answer.   3.8 × 1,000 = | 3,800 |

6 Complete the multiplications.

a) 4.7 × 10 = | 47 | **c)** 5.84 × 10 = | 58·4 |

4.7 × 100 = | 470 | 5.84 × 100 = | 584 |

4.7 × 1,000 = | 4,700 | 5.84 × 1,000 = | 5,840 |

b) 19.3 × 10 = | 193 | **d)** 18.06 × 10 = | 180·6 |

19.3 × 100 = | 1,930 | 100 × 18.06 = | 1,806 |

1,000 × 19.3 = | 19,300 | 18.06 × 1,000 = | 18,060 |

How did you work out the answers? Talk to a partner.

7 Complete the calculations.

a) 7.7 × | 100 | = 770   **e)** 8.032 × | 10 | = 80.32

b) | 195 | × 10 = 1,950   **f)** | 100 | × 18.3 = 1,830

c) 11.5 × | 10 | = 115   **g)** 195.32 × | 10 | = 1,953.2

d) | 1,000 | × 11.5 = 11,500   **h)** | 7·2 | × 1,000 = 7,200

8 Tommy is 1.4 m tall.

A tree is 10 times as tall as Tommy.

A building is 100 times as tall as Tommy.

a) How tall is the tree? | 14 | m

b) How much taller is the building than the tree?

| 126 | m

9 Match the multiplications to the descriptions.

| × 10 × 10 | | multiply by 10 |

| × 10 × 10 × 10 | | multiply by 100 |

| × 100 × 10 |

| × 10 × 100 | | multiply by 1,000 |

| × 10 × 1 |