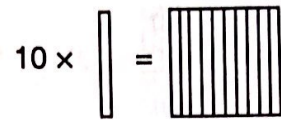
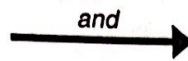


$$= 1.0$$



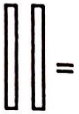
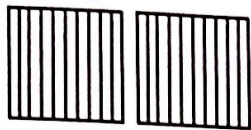
$$= 0.1$$



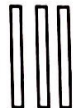
If a hundreds block represents 1 whole, then a tens block represents 1 tenth (or 0.1).

10 tenths make 1 whole:
 $10 \times 0.1 = 1.0$

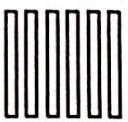
1. Multiply the number of tens blocks by 10. Then show how many hundreds blocks you would have. The first one is done for you.

a) $10 \times$  $=$ 

$$10 \times 0.2 = \underline{2}$$

b) $10 \times$  $=$ _____

$$10 \times 0.3 = \underline{\hspace{2cm}}$$

c) $10 \times$  $=$ _____

$$10 \times 0.6 = \underline{\hspace{2cm}}$$

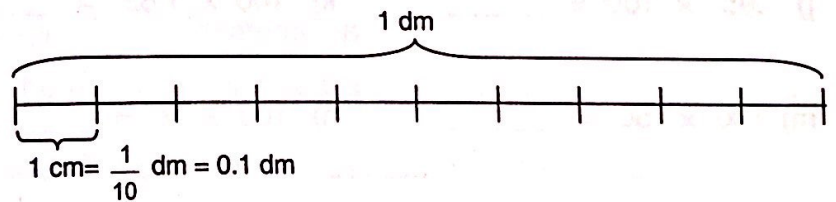
2. Multiply.

a) $10 \times .5 = \underline{\hspace{1cm}}$ b) $10 \times .7 = \underline{\hspace{1cm}}$ c) $10 \times 1.4 = \underline{\hspace{1cm}}$ d) $10 \times .9 = \underline{\hspace{1cm}}$

e) $10 \times 1.7 = \underline{\hspace{1cm}}$ f) $1.6 \times 10 = \underline{\hspace{1cm}}$ g) $18.2 \times 10 = \underline{\hspace{1cm}}$ h) $17.3 \times 10 = \underline{\hspace{1cm}}$

i) $10 \times 23.5 = \underline{\hspace{1cm}}$ j) $10 \times 1.72 = \underline{\hspace{1cm}}$ k) $10 \times 42.6 = \underline{\hspace{1cm}}$ l) $5.36 \times 10 = \underline{\hspace{1cm}}$

3. To change from dm to cm, you multiply by 10 (because there are 10 cm in 1 dm).



Find the answers.

a) $.6 \text{ dm} = \underline{\hspace{2cm}} \text{ cm}$ b) $.8 \text{ dm} = \underline{\hspace{2cm}} \text{ cm}$ c) $1.6 \text{ dm} = \underline{\hspace{2cm}} \text{ cm}$

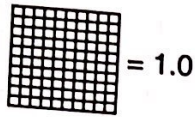
4. 10×3 can be written as a sum: $3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3$.

Write $10 \times .3$ as a sum and skip count by $.3$ to find the answer.

5. A dime is a tenth of a dollar ($10\text{¢} = \$0.10$).

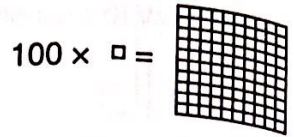
Draw a picture or use play money to show that $10 \times \$0.20 = \2.00 .

NS5-94: Multiplying Decimals by 100



$\square = 0.01$

and \rightarrow



If a hundreds block represents 1 whole, then a ones block represents 1 hundredth (or .01).

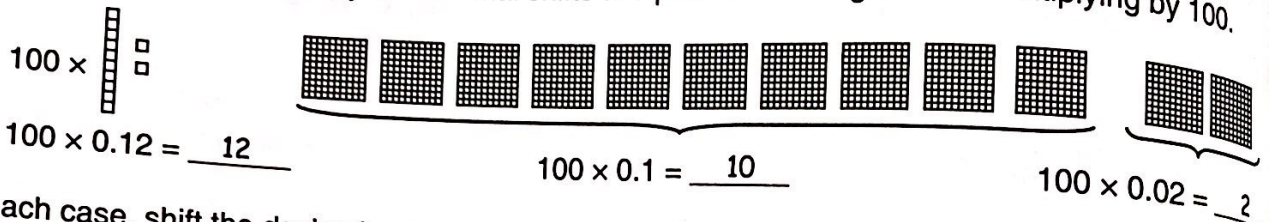
100 hundredths makes 1 whole:
 $100 \times .01 = 1.00$

1. Write a multiplication statement for each picture.

a) $100 \times \square =$
 $100 \times .02 =$ _____

b) $100 \times \square =$
 _____ = _____

2. The picture below shows why the decimal shifts two places to the right when multiplying by 100.



In each case, shift the decimal one or two places to the right. Draw arrows as shown in part a).

- a) $100 \times .7 = 70$ b) $100 \times 1.8 =$ _____ c) $100 \times 4.6 =$ _____
- d) $100 \times .03 =$ _____ e) $100 \times 6.25 =$ _____ f) $100 \times 3.07 =$ _____
- g) $100 \times .07 =$ _____ h) $100 \times .06 =$ _____ i) $10 \times .67 =$ _____
- j) $.95 \times 100 =$ _____ k) $100 \times 1.82 =$ _____ l) $100 \times 4.07 =$ _____
- m) $100 \times .50 =$ _____ n) $100 \times .7 =$ _____ o) $10 \times 1.8 =$ _____
- p) $1.9 \times 100 =$ _____ q) $100 \times .6 =$ _____ r) $100 \times 1.7 =$ _____

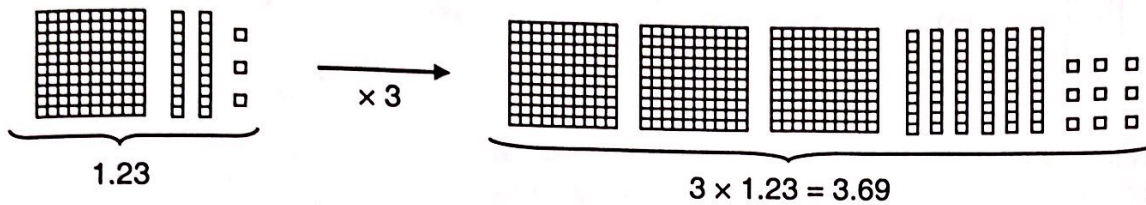
3. There are 10 centimetres in a decimetre and 100 millimetres in a decimetre.

- a) $1.52 \text{ dm} =$ _____ cm b) $3.75 \text{ dm} =$ _____ mm c) $.05 \text{ dm} =$ _____ mm
- d) $.08 \text{ dm} =$ _____ cm e) $.6 \text{ dm} =$ _____ mm f) $1.23 \text{ dm} =$ _____ cm



- 4. Explain why ... a) $100 \times \$0.02 = \2.00 b) $100 \times \$0.10 = \10.00
- 5. Explain why the decimal moves 2 places to the right when you multiply by 100.

The picture shows how to multiply a decimal by a whole number.



HINT: Simply multiply each digit separately.

1. Multiply mentally.

- a) $2 \times 1.43 = \underline{\quad}$ b) $3 \times 1.2 = \underline{\quad}$ c) $5 \times 1.01 = \underline{\quad}$ d) $4 \times 2.1 = \underline{\quad}$
 e) $2 \times 5.34 = \underline{\quad}$ f) $4 \times 2.1 = \underline{\quad}$ g) $3 \times 3.12 = \underline{\quad}$ h) $3 \times 4.32 = \underline{\quad}$

2. Multiply by regrouping tenths as ones (the first one is done for you).

- a) $6 \times 1.4 = \underline{6}$ ones + $\underline{24}$ tenths = $\underline{8}$ ones + $\underline{4}$ tenths = $\underline{8.4}$
 b) $3 \times 2.5 = \underline{\quad}$ ones + $\underline{\quad}$ tenths = $\underline{\quad}$ ones + $\underline{\quad}$ tenths = $\underline{\quad}$
 c) $3 \times 2.7 = \underline{\quad}$ ones + $\underline{\quad}$ tenths = $\underline{\quad}$ ones + $\underline{\quad}$ tenths = $\underline{\quad}$
 d) $4 \times 2.6 = \underline{\quad}$

3. Multiply by regrouping tenths as ones or hundredths as tenths.

- a) $3 \times 2.51 = \underline{\quad}$ ones + $\underline{\quad}$ tenths + $\underline{\quad}$ hundredths
 = $\underline{\quad}$ ones + $\underline{\quad}$ tenths + $\underline{\quad}$ hundredths = $\underline{\quad}$
 b) $4 \times 2.14 = \underline{\quad}$ ones + $\underline{\quad}$ tenths + $\underline{\quad}$ hundredths
 = $\underline{\quad}$ ones + $\underline{\quad}$ tenths + $\underline{\quad}$ hundredths = $\underline{\quad}$
 c) $5 \times 1.41 = \underline{\quad}$ ones + $\underline{\quad}$ tenths + $\underline{\quad}$ hundredths
 = $\underline{\quad}$ ones + $\underline{\quad}$ tenths + $\underline{\quad}$ hundredths = $\underline{\quad}$

4. Multiply. In some questions you will have to regroup twice.

a)

3	4	5
		3
x		

b)

7	6	2
		4
x		

c)

4	3	1
		6
x		

d)

3	2	5
		3
x		

5. Find the products.

- a) 5×2.1 b) 3×8.3 c) 5×7.5 d) 9×2.81 e) 7×3.6 f) 6×3.4
 g) 4×3.2 h) 5×6.35 i) 6×3.95 j) 8×2.63 k) 3×31.21 l) 4×12.32