

# 8. [Decimal $\times, \div$ ]

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## Skill 8.1 Multiplying a whole number by a decimal number (1).

MM7 1 1 2 2 3 3 4 4  
MM8 1 1 2 2 3 3 4 4

- Multiply from right to left, disregarding the decimal point.
- Count the number of places to the right of the decimal point in the question.
- Position the decimal point the same number of places from the right in the answer.

Q.  $0.62 \times 4 =$

A.  $0.62 \times 4 = 2.48$

$$\begin{array}{r} 0.62 \\ \times 4 \\ \hline 2.48 \end{array}$$

$4 \times 2 = 8$

write 8

$4 \times 6 = 24$

carry 2, write 4

$4 \times 0 + \text{carry } 2 = 2$

write 2

2 decimal places in question so  
move decimal point 2 places from right in the answer

a)  $0.9 \times 3 =$

2.7

$$\begin{array}{r} 0.9 \\ \times 3 \\ \hline 2.7 \end{array}$$

b)  $0.8 \times 2 =$

$$\begin{array}{r} 0.8 \\ \times 2 \\ \hline \end{array}$$

c)  $0.7 \times 5 =$

$$\begin{array}{r} 0.7 \\ \times 5 \\ \hline \end{array}$$

d)  $0.4 \times 6 =$

$$\begin{array}{r} 0.4 \\ \times 6 \\ \hline \end{array}$$

e)  $0.3 \times 7 =$

$$\begin{array}{r} 0.3 \\ \times 7 \\ \hline \end{array}$$

f)  $0.6 \times 9 =$

$$\begin{array}{r} 0.6 \\ \times 9 \\ \hline \end{array}$$

g)  $5.1 \times 3 =$

$$\begin{array}{r} 5.1 \\ \times 3 \\ \hline \end{array}$$

h)  $4.3 \times 6 =$

$$\begin{array}{r} 4.3 \\ \times 6 \\ \hline \end{array}$$

i)  $2.7 \times 4 =$

$$\begin{array}{r} 2.7 \\ \times 4 \\ \hline \end{array}$$

j)  $3.8 \times 2 =$

$$\begin{array}{r} 3.8 \\ \times 2 \\ \hline \end{array}$$

k)  $1.9 \times 5 =$

$$\begin{array}{r} 1.9 \\ \times 5 \\ \hline \end{array}$$

l)  $7.3 \times 8 =$

$$\begin{array}{r} 7.3 \\ \times 8 \\ \hline \end{array}$$

## Skill 8.1 Multiplying a whole number by a decimal number (2).

MM7 1 1 2 2 3 3 4 4  
MM8 1 1 2 2 3 3 4 4

m)  $0.24 \times 5 =$

$$\begin{array}{r} 0.24 \\ \times \quad 5 \\ \hline 1.20 \end{array}$$

n)  $0.71 \times 6 =$

$$\begin{array}{r} 0.71 \\ \times \quad 6 \\ \hline \end{array}$$

o)  $1.56 \times 8 =$

$$\begin{array}{r} 1.56 \\ \times \quad 8 \\ \hline \end{array}$$

p)  $2.09 \times 4 =$

$$\begin{array}{r} 2.09 \\ \times \quad 4 \\ \hline \end{array}$$

q)  $3.26 \times 3 =$

$$\begin{array}{r} 3.26 \\ \times \quad 3 \\ \hline \end{array}$$

r)  $4.82 \times 2 =$

$$\begin{array}{r} 4.82 \\ \times \quad 2 \\ \hline \end{array}$$

s)  $14.02 \times 6 =$

$$\begin{array}{r} 14.02 \\ \times \quad 6 \\ \hline \end{array}$$

t)  $4 \times 20.15 =$

$$\begin{array}{r} 20.15 \\ \times \quad 4 \\ \hline \end{array}$$

u)  $18.02 \times 3 =$

$$\begin{array}{r} \phantom{18.02} \\ \times \phantom{3} \\ \hline \end{array}$$

v)  $8 \times 10.91 =$

$$\begin{array}{r} \phantom{8} \\ \times \phantom{10.91} \\ \hline \end{array}$$

w)  $2.008 \times 7 =$

$$\begin{array}{r} \phantom{2.008} \\ \times \phantom{7} \\ \hline \end{array}$$

x)  $6 \times 0.521 =$

$$\begin{array}{r} \phantom{6} \\ \times \phantom{0.521} \\ \hline \end{array}$$

y)  $5 \times 3.105 =$

$$\begin{array}{r} \phantom{5} \\ \times \phantom{3.105} \\ \hline \end{array}$$

z)  $5.312 \times 4 =$

$$\begin{array}{r} \phantom{5.312} \\ \times \phantom{4} \\ \hline \end{array}$$

zz)  $3 \times 2.041 =$

$$\begin{array}{r} \phantom{3} \\ \times \phantom{2.041} \\ \hline \end{array}$$



### Skill 8.3 Multiplying a decimal number by a decimal number.

- Multiply from right to left, disregarding the decimal point.
- Count the number of places to the right of the decimal point in the question.
- Position the decimal point the same number of decimal places from the right in the answer.
- Use zeros as place holders, if necessary.  
Example:  $0.02 \times 0.3 = 0.006$
- If the result is less than 1, write a zero in the units place.  
Example: By convention  $0.37$  not  $.37$

**Q.**  $2.5 \times 0.8 =$

**A.**  $2.5 \times 0.8 = 2$

$8 \times 5 = 40$

carry 4, write 0

$8 \times 2 + \text{carry } 4 = 20$

write 20

$$\begin{array}{r} 2.5 \\ \times 0.8 \\ \hline 2.00 \end{array}$$

2 decimal places in question so  
move decimal point 2 places from right in the answer

**a)**  $0.8 \times 0.9 =$

**0.72**

$$\begin{array}{r} 0.8 \\ \times 0.9 \\ \hline 0.72 \end{array}$$

**b)**  $0.3 \times 0.4 =$

$$\begin{array}{r} 0.3 \\ \times 0.4 \\ \hline \end{array}$$

**c)**  $0.5 \times 0.8 =$

$$\begin{array}{r} 0.5 \\ \times 0.8 \\ \hline \end{array}$$

**d)**  $0.7 \times 0.6 =$

$$\begin{array}{r} 0.7 \\ \times 0.6 \\ \hline \end{array}$$

**e)**  $0.9 \times 0.4 =$

$$\begin{array}{r} 0.9 \\ \times 0.4 \\ \hline \end{array}$$

**f)**  $1.2 \times 0.6 =$

$$\begin{array}{r} 1.2 \\ \times 0.6 \\ \hline \end{array}$$

**g)**  $1.4 \times 0.7 =$

$$\begin{array}{r} 1.4 \\ \times 0.7 \\ \hline \end{array}$$

**h)**  $2.3 \times 0.9 =$

$$\begin{array}{r} 2.3 \\ \times 0.9 \\ \hline \end{array}$$

**i)**  $1.6 \times 0.3 =$

$$\begin{array}{r} 1.6 \\ \times 0.3 \\ \hline \end{array}$$

**j)**  $0.5 \times 0.06 =$

**0.03**

$$\begin{array}{r} 0.5 \\ \times 0.06 \\ \hline 0.030 \end{array}$$

remove unnecessary zero

< 1 so write zero in units place

**k)**  $0.16 \times 0.3 =$

$$\begin{array}{r} 0.16 \\ \times 0.3 \\ \hline \end{array}$$

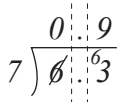
**l)**  $1.07 \times 0.9 =$

$$\begin{array}{r} 1.07 \\ \times 0.9 \\ \hline \end{array}$$

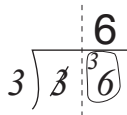
### Skill 8.4 Dividing a decimal number by a decimal number.

MM7 11 22 33 44  
MM8 11 22 33 44

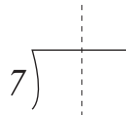
- Move the decimal point to the right in the divisor, as many places as you need to make it a whole number.
  - Then move the decimal point the same number of places to the right in the dividend.
- Example:  $0.5\widehat{6} \div 0.8\widehat{8} = 5.6 \div 8 = 0.7$
- Add zeros as place holders, if necessary.
- Example:  $4.9 \div 0.07 = 4.9\widehat{0} \div 0.07\widehat{0} = 490 \div 7 = 70$
- Line up the decimal point in your answer with the decimal point in the question.
  - Divide from left to right. (see skill 8.2, page 35)

**Q.**  $0.63 \div 0.7 =$       **A.**  $0.6\widehat{3} \div 0.7\widehat{0} =$        $6 \div 7 = ?$  (less than 0) carry 6, write 0  
 $= 6.3 \div 7$        $= 0.9$        $63 \div 7 = 9$       Line up the decimal point.  
      write 9

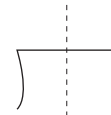
**a)**  $3.6 \div 0.6 =$   
*1 place right makes a whole number*  
 $= 36 \div 6 = \boxed{6}$



**b)**  $1.4 \div 0.7 =$   
 $= \dots = \boxed{\phantom{00}}$



**c)**  $4.5 \div 0.9 =$   
 $= \dots = \boxed{\phantom{00}}$



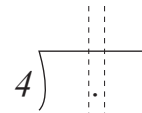
**d)**  $7.6 \div 0.2 =$   
 $= \dots = \boxed{\phantom{00}}$



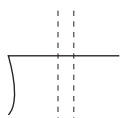
**e)**  $6.9 \div 0.3 =$   
 $= \dots = \boxed{\phantom{00}}$



**f)**  $0.76 \div 0.4 =$   
 $= \dots = \boxed{\phantom{00}}$



**g)**  $0.08 \div 0.4 =$   
 $= \dots = \boxed{\phantom{00}}$



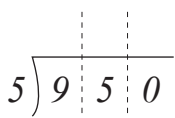
**h)**  $0.49 \div 0.7 =$   
 $= \dots = \boxed{\phantom{00}}$



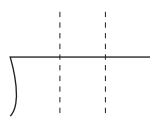
**i)**  $6.42 \div 0.6 =$   
 $= \dots = \boxed{\phantom{00}}$



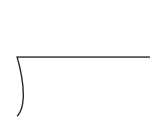
**j)**  $9.5 \div 0.05 =$   
 $= 950 \div 5 = \boxed{\phantom{00}}$




**k)**  $2.7 \div 0.09 =$   
 $= \dots = \boxed{\phantom{00}}$



**l)**  $7.2 \div 0.08 =$   
 $= \dots = \boxed{\phantom{00}}$



**m)**  $6.4 \div 0.04 =$   
 $= \dots = \boxed{\phantom{00}}$



**n)**  $4.5 \div 0.05 =$   
 $= \dots = \boxed{\phantom{00}}$



**o)**  $9.6 \div 0.06 =$   
 $= \dots = \boxed{\phantom{00}}$



### Skill 8.5 Dividing a whole number by a decimal number.

MM7 11 22 33 44  
MM8 11 22 33 44

- Move the decimal point to the right in the divisor, as many places as you need to make a whole number.
- Then move the decimal point the same number of places to the right in the dividend.
- Add zeros as place holders.

Example:  $16 \div 0.4 = 16.\widehat{0} \div 0.\widehat{4} = 160 \div 4 = 40$

- Divide the whole numbers.

**Q.**  $9 \div 0.6 =$       **A.**  $9.\widehat{0} \div 0.\widehat{6} =$  1 place right makes a whole number

add zero as place holder  $= 90 \div 6$

$= 15$

$$\begin{array}{r} 15 \\ 6 \overline{) 90} \end{array}$$

$9 \div 6 = 1$   
 $30 \div 6 = 5$

carry 3, write 1  
write 5

**a)**  $5 \div 0.5 =$

$= 5.\widehat{0} \div 0.\widehat{5}$

$= 50 \div 5 =$  10

$$\begin{array}{r} 10 \\ 5 \overline{) 50} \end{array}$$

**b)**  $6 \div 0.3 =$

$=$  \_\_\_\_\_  
 $=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{00} \\ 3 \overline{) \phantom{00}} \end{array}$$

**c)**  $6 \div 0.4 =$

$=$  \_\_\_\_\_  
 $=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{00} \\ \phantom{0} \overline{) \phantom{00}} \end{array}$$

**d)**  $8 \div 0.1 =$

$=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{00} \\ \phantom{0} \overline{) \phantom{00}} \end{array}$$

**e)**  $5 \div 0.2 =$

$=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{00} \\ \phantom{0} \overline{) \phantom{00}} \end{array}$$

**f)**  $4 \div 0.5 =$

$=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{00} \\ \phantom{0} \overline{) \phantom{00}} \end{array}$$

**g)**  $9 \div 0.2 =$

$=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{00} \\ \phantom{0} \overline{) \phantom{00}} \end{array}$$

**h)**  $3 \div 0.06 =$

$=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{000} \\ 6 \overline{) \phantom{000}} \end{array}$$

**i)**  $7 \div 0.04 =$

$=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{000} \\ \phantom{0} \overline{) \phantom{000}} \end{array}$$

**j)**  $4 \div 0.02 =$

$=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{000} \\ \phantom{0} \overline{) \phantom{000}} \end{array}$$

**k)**  $9 \div 0.05 =$

$=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{000} \\ \phantom{0} \overline{) \phantom{000}} \end{array}$$

**l)**  $6 \div 0.04 =$

$=$  \_\_\_\_\_  $=$   

$$\begin{array}{r} \phantom{000} \\ \phantom{0} \overline{) \phantom{000}} \end{array}$$