

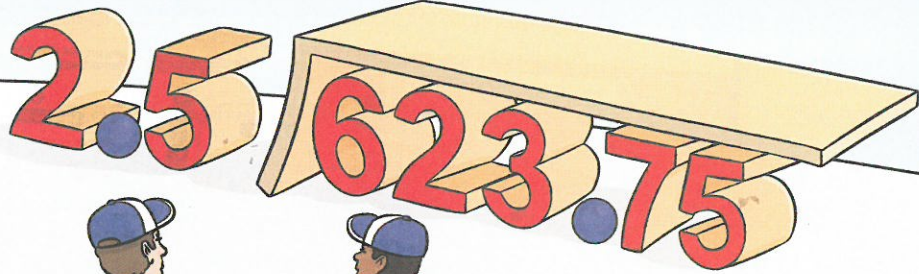
Dividing with Decimals

Skill: Extend understanding of division to divide with decimal fractions

To divide by a decimal, change the divisor to a whole number.

Decimal Point Movers

We have to move both decimal points one place to the right.



- 1 Lay out the mats and sort the cards into groups of **true** and **false**.
- 2 Review **Rules for Dividing with Decimals**.
- 3 Look at each division problem on the mats. Does the problem divide a decimal by a whole number, a whole number by a decimal, or a decimal by a decimal?
- 4 Look at the solution and put a **true** card in the box if the decimal point is placed correctly. Put a **false** card in the box if the decimal point is **not** placed correctly.
- 5 Complete the written practice activity.

Rules for Dividing with Decimals

To divide a decimal by a whole number

- 1 Move the decimal point up to the quotient.
- 2 Do the division.

$$\begin{array}{r} 1.9 \\ 3 \overline{) 57} \\ \underline{-3} \\ 27 \\ \underline{-27} \\ 0 \end{array}$$

Dividing with Decimals

Dividing with Decimals

problem	solution	problem	solution
1 $8 \overline{) 6.4}$	$8 \overline{) 6.4} = .8$	7 $.3 \overline{) 39.48}$	$3 \overline{) 131.6}$
2 $.3 \overline{) 39}$	$3 \overline{) 39.0} = 13.0$	8 $6 \overline{) 1.302}$	$6 \overline{) 2.17}$
3 $.04 \overline{) 4}$	$4 \overline{) 400.} = 100$	9 $17 \overline{) 3.4}$	$17 \overline{) 34.0} = 2.0$
4 $.8 \overline{) 168}$	$8 \overline{) 16.8} = 2.1$	10 $.18 \overline{) 288}$	$18 \overline{) 2.88} = .16$
5 $.21 \overline{) 11.55}$	$21 \overline{) 11.55} = .55$	11 $.200 \overline{) 7940}$	$200 \overline{) 7940.0} = 3.97$



Rules for Dividing with Decimals

To divide a decimal by a whole number

- 1 Move the decimal point up to the quotient.
- 2 Do the division.

$$\begin{array}{r} 1.9 \\ 3 \overline{) 5.7} \\ \underline{-3} \\ 27 \\ \underline{-27} \\ 0 \end{array}$$

To divide a whole number by a decimal

- 1 Move the decimal point in the divisor to create a whole number.
- 2 Add a decimal point at the end of the dividend and move it the same number of places to the right as you moved the decimal point in the divisor. (Add zeros to create the number of places you need to move the decimal point.)
- 3 Do the division.

$$\begin{array}{r} 120 \\ .7 \overline{) 84.0} \\ \underline{-7} \\ 14 \\ \underline{-14} \\ 00 \\ \underline{-00} \\ 0 \end{array}$$

To divide a decimal by a decimal

- 1 Move the decimal point in the divisor to create a whole number.
- 2 Move the decimal point in the dividend the same number of places to the right. (Add zeros, if necessary, to create the number of places you need to move the decimal point.)
- 3 Do the division.

$$\begin{array}{r} 140 \\ .14 \overline{) 19.60} \\ \underline{-14} \\ 56 \\ \underline{-56} \\ 00 \\ \underline{-00} \\ 0 \end{array}$$

Dividing with Decimals

	problem	solution	problem	solution
1	$8 \overline{)6.4}$	$\begin{array}{r} .8 \\ 8 \overline{)6.4} \end{array}$		
2	$.3 \overline{)39}$	$\begin{array}{r} 13.0 \\ 3 \overline{)39.0} \end{array}$		
3	$.04 \overline{)4}$	$\begin{array}{r} 100 \\ 4 \overline{)400.} \end{array}$		
4	$.8 \overline{)168}$	$\begin{array}{r} 2.1 \\ 8 \overline{)16.8} \end{array}$		
5	$.21 \overline{)1,155}$	$\begin{array}{r} .55 \\ 21 \overline{)11.55} \end{array}$		
6	$.3 \overline{)39.48}$	$\begin{array}{r} 131.6 \\ 3 \overline{)394.8} \end{array}$		
7	$6 \overline{)1.302}$	$\begin{array}{r} .217 \\ 6 \overline{)1.302} \end{array}$		
8	$17 \overline{)3.4}$	$\begin{array}{r} 2.0 \\ 17 \overline{)34.0} \end{array}$		
9	$.18 \overline{)288}$	$\begin{array}{r} .16 \\ 18 \overline{)2.88} \end{array}$		
10	$.200 \overline{)7940}$	$\begin{array}{r} 3.97 \\ 200 \overline{)7940.0} \end{array}$		

Dividing with Decimals

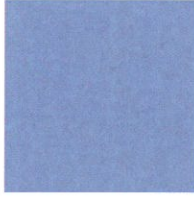
problem

solution

11

$$5 \overline{)0.1515}$$

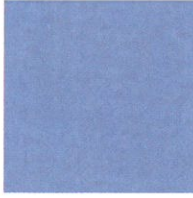
$$\begin{array}{r} .0303 \\ 5 \overline{)0.1515} \end{array}$$



12

$$1.71 \overline{)3.42}$$

$$\begin{array}{r} .2 \\ 1.71 \overline{)3.42} \end{array}$$



13

$$11 \overline{)3.96}$$

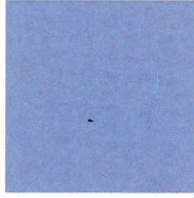
$$\begin{array}{r} .36 \\ 11 \overline{)3.96} \end{array}$$



14

$$6.4 \overline{)2.56}$$

$$\begin{array}{r} .04 \\ 6.4 \overline{)2.56} \end{array}$$



15

$$1.06 \overline{)212}$$

$$\begin{array}{r} 200 \\ 1.06 \overline{)21200} \end{array}$$



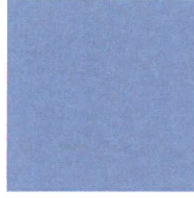
problem

solution

16

$$.68 \overline{)4,148}$$

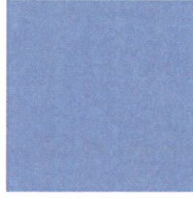
$$\begin{array}{r} 6,100 \\ .68 \overline{)4,148,000} \end{array}$$



17

$$5.1 \overline{)1.53}$$

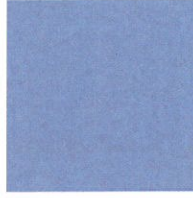
$$\begin{array}{r} .003 \\ 5.1 \overline{)1.53} \end{array}$$



18

$$.567 \overline{)1,134}$$

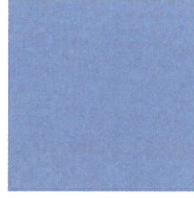
$$\begin{array}{r} .2 \\ .567 \overline{)1,134} \end{array}$$



19

$$28 \overline{)4.20}$$

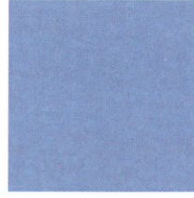
$$\begin{array}{r} .15 \\ 28 \overline{)4.20} \end{array}$$




20

$$71.9 \overline{)3,738.8}$$

$$\begin{array}{r} .52 \\ 71.9 \overline{)3,738.8} \end{array}$$





true	true	true	true	true
true	true	true	true	true
true	true	true	true	true
true	true	true	true	true
false	false	false	false	false
false	false	false	false	false
false	false	false	false	false
false	false	false	false	false

Dividing with Decimals

Compute the quotient for each division problem. Show your work.
(Round decimals in quotients to hundredths.)

$$9 \overline{)56.79}$$

$$.25 \overline{)775}$$

$$3.1 \overline{)1.24}$$

$$7.7 \overline{)108}$$

$$6.8 \overline{)9.52}$$

$$18 \overline{)1.44}$$

$$1.62 \overline{).00486}$$

$$4.5 \overline{)9,000}$$

$$8.9 \overline{)5.17}$$