NAME _____

Lesson 2.4 Patterns of Zeros and Decimals in Products and Quotients

When a number is multiplied or divided by a multiple of 10, the number of zeros and decimals in the product or quotient will vary based on the value of the multiple of 10 that is used.

0.2658×1	=	0.2658
0.2658×10	=	2.658
0.2658×100	=	26.58
$0.2658 \times 1{,}000$	=	265.8
$0.2658 \times 10{,}000$	=	2,658.0
$0.2658 \times 100{,}000$	=	26,580.0
$0.2658 \times 1{,}000{,}000$	=	265,800.0

When a number is multiplied by a power of 10, the decimal in the product moves to the right and zeros are added to the left of the decimal when needed.

$265{,}800. \div 1$	=	265,800.0
$265{,}800. \div 10$	=	26,580.0
$265{,}800. \div 100$	=	2,658.0
$265{,}800. \div 1{,}000$	=	265.8
$265{,}800. \div 10{,}000$	=	26.58
$265{,}800. \div 100{,}000$	=	2.658
$265{,}800. \div 1{,}000{,}000$	=	0.2658

When a number is divided by a power of 10, the decimal in the product moves to the left and zeros are added to the right of the decimal when needed.

Multiply by the power of ten to find the product.

	a	b	c
1.	21.48×10	$6.07 \times 1{,}000$	7.58×100
	_____	_____	_____
2.	$7.434 \times 100{,}000$	$0.7 \times 1{,}000$	$0.502 \times 10{,}000$
	_____	_____	_____

Divide by the power of ten to find the quotient.

3.	$13.4 \div 10$	$27.65 \div 100$	$320.7 \div 10$
	_____	_____	_____
4.	$3.457 \div 100$	$82.93 \div 10$	$726.9 \div 1{,}000$
	_____	_____	_____