Dividing by Powers of 10

Fill in the missing information below. You may use a calculator.

	Number Sentence	Number Sentence Without Exponents	Quotient/ Answer	Observations (How did the placement of the decimal change?)
1	$12.5 \div 10$	$12.5 \div 10$	1.25	The decimal moved one place to the left in the answer
2	$12.5 \div 10^2$	$12.5 \div 100$	0.125	The decimal moved two place to the left in the answer
3	$12.5 \div 10^3$	$12.5 \div 1,000$	0.0125	The decimal moved three place to the left in the answer
4	$12.5 \div 10^4$	$12.5 \div 10,000$	0.00125	The decimal moved four place to the left in the answer
5	$12.5 \div 10^5$	$12.5 \div 100,000$	0.000125	The decimal moved five place to the left in the answer
6	$23.7 \div 10^2$	$23.7 \div 100$	0.237	The decimal moved two place to the left in the answer
7	$23.7 \div 10^3$	$23.7 \div 1,000$	0.0237	The decimal moved three place to the left in the answer
8	$23.7 \div 10^4$	$23.7 \div 10,000$	0.00237	The decimal moved four place to the left in the answer
9	$23.7 \div 10^5$	$23.7 \div 100,000$	0.000237	The decimal moved five place to the left in the answer

Explain to a partner, if there are patterns of the placement of the decimal point when a decimal is divided by a power of 10. Discuss your best explanation and write it below. Your may continue on the back if needed.

The exponent matches the # of places the decimal moves to the left in the quotient. We can generalize that when a number is divided by a power of ten, the decimal moves to the left the same number of places in the quotient/answer.