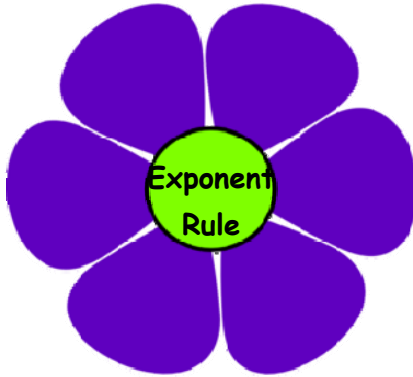


## Patterns in Products with Many Zeroes



The exponent tells you how many zeroes to add to the right of the number.

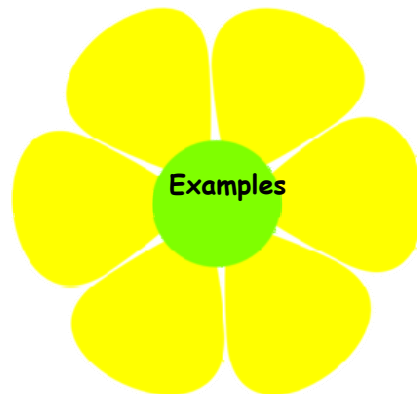
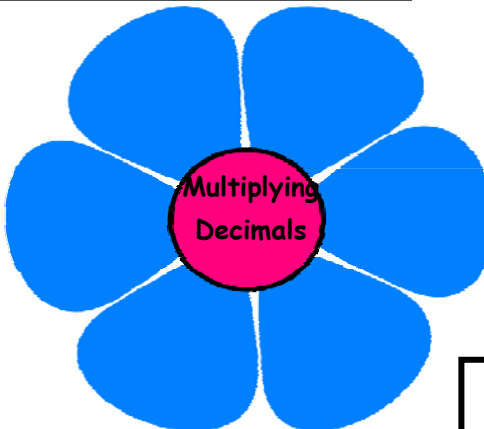
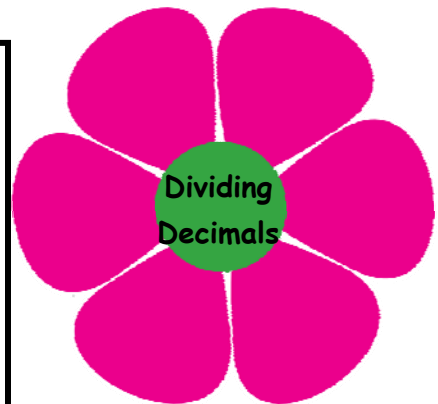
$$6.3 \times 10^4 = 63,000$$

Multiplying decimals by powers of 10, move the decimal point to the right one place for each zero.

$$100 \times 0.33 = 33$$

Dividing decimals by numbers with a lot of zeroes move the decimals point to the left one place for every zero in the divisor.

$$32.147 \div 1,000 = 0.032147$$



$$.32 \times 10^5 = 32,000$$

You move the decimal 5 places to the right add enough zeros to complete the movement. (In this case we added 3 zeros)

$$980.3 \div 100 = 9.803$$

When dividing move the decimal to the left 1 place for every zero found in the divisor. (In this problem we moved the decimal 2 places because 100 has 2 zeros.)