

Grade 5 - Place Value and Powers of Ten - Worksheet

Common Core 5.NBT.A.1, 5.NBT.A.2 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

These 20 problems practice place value and powers of 10 (Common Core 5.NBT.A.1 and 5.NBT.A.2). You will compare the value of digits in neighboring places, write powers of 10 with exponents, and multiply and divide whole numbers and decimals by 10, 100 and 1,000.

Watch the decimal point move. It moves right when you multiply and left when you divide. The last six problems are word problems.

Grade 5 · Common Core State Standards: **5.NBT.A.1, 5.NBT.A.2**

Exercise 1 - Tens and hundreds

In the number 7,700, how many times the value of the 7 in the hundreds place is the 7 in the thousands place?

Exercise 2 - One tenth

In the number 440, the 4 in the tens place is what fraction of the value of the 4 in the hundreds place?

Exercise 3 - Compare digits in 3.33

The chart shows the number 3.33. How many times the value of the 3 in the tenths place is the 3 in the ones place?

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
		3	3	3	3

A place value chart.

Exercise 4 - Multiply by 10

Find each product.

- a. 3.7×10
- b. 0.46×10
- c. 52×10

Exercise 5 - Divide by 10

Find each quotient.

- a. $450 \div 10$
- b. $63 \div 10$
- c. $8 \div 10$
- d. $2.5 \div 10$

Exercise 6 - Multiply by 100

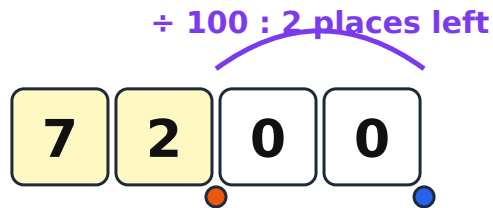
Find each product.

- a. 6×100
- b. 0.38×100
- c. 4.5×100
- d. 0.07×100

Exercise 7 - Divide by 100

Find each quotient. The picture shows how the point moves in the first problem.

- a. $7,200 \div 100$
- b. $530 \div 100$
- c. $9 \div 100$
- d. $46.5 \div 100$



$$7,200 \div 100 = 72$$

Two places left.

Exercise 8 - Multiply by 1,000

Find each product.

- a. $0.9 \times 1,000$
- b. $3.25 \times 1,000$
- c. $12 \times 1,000$
- d. $0.004 \times 1,000$

Exercise 9 - Write the exponent

Write each number as a power of 10 with an exponent.

- a. 100
- b. 10,000
- c. 1,000,000

$$\boxed{10} \times \boxed{10} \times \boxed{10} \times \boxed{10} = ?$$

Count the 10s.

Exercise 10 - Evaluate powers of 10

Write each power of 10 as a standard number.

- a. 10^1
- b. 10^3
- c. 10^5

Exercise 11 - Multiply by powers of 10

Find each product.

- a. 4.2×10^2
- b. 0.067×10^3
- c. 35×10^4
- d. 0.5×10^1

Exercise 12 - Divide by powers of 10

Find each quotient.

- a. $840 \div 10^2$
- b. $6 \div 10^3$
- c. $25.3 \div 10^1$
- d. $9,000 \div 10^3$

Exercise 13 - Missing exponent

Find the missing exponent.

- a. $3.4 \times 10^? = 3,400$
- b. $0.056 \times 10^? = 56$
- c. $720 \div 10^? = 7.2$
- d. $15 \div 10^? = 0.015$

Exercise 14 - Missing number

Find the missing number.

- a. $? \times 10^2 = 8,500$
- b. $62 \div 10^? = 0.62$
- c. $? \times 10^3 = 4,200$
- d. $0.9 \times 10^? = 90$

Exercise 15 - Pencil boxes

The school store ordered 10^3 pencils. Each box holds 10^2 pencils. Write the division with

powers of 10 and find how many boxes the store filled.



Each box holds 100 pencils.

Exercise 16 - Line of ants

An ant is 0.3 inch long. A line of 100 ants walks head to tail. How long is the line in inches?



Each ant is 0.3 inch long.

Exercise 17 - Weekly savings

Ethan saves \$2.35 each week. How much does he save in 10 weeks? How much in 100 weeks?

Exercise 18 - Crayon cartons

A factory has 6,000 crayons. It packs 100 crayons in each box and 10 boxes in each carton. How many boxes and how many cartons does it fill?

Exercise 19 - Mei's product

Mei multiplies 0.35 by 100 and writes 0.3500. Explain her mistake and find the correct product.

Exercise 20 - Bake sale quarters

At a bake sale, Diego sells 10^2 brownies for \$0.25 each. He gives away $\frac{1}{10}$ of the money to the animal shelter. How much money does he give?



Each brownie costs 25 cents.