LESSON MAKER PRO

Decode the Display

Turn calculator notation into numbers you can use.

GRADE 7 · 7A.AF.B.16.c

7A.AF.B.16.c "Interpret scientific notation that has been generated by technology."

NAME _____ DATE _____

WHAT DOES E MEAN?

A screen uses E to mean "times 10 to the power of." A positive exponent moves the decimal point right, and a negative exponent moves it left. Add zeros when you need them.

WORKED EXAMPLE

A screen shows 8.13E+2. Write the number in ordinary form.

1. Read E+2 as × 10^2.
2. Move the decimal point in 8.13 two places right.

Answer: 813

PRACTICE 6 problems

1 Write 6.3E+4 in ordinary form.

ANSWER _____

2 Write 7.5E-3 in ordinary form.

ANSWER _____

3 Write 1.09E+6 in ordinary form.

ANSWER _____

4 Write 2.04E-5 in ordinary form.

ANSWER _____

5 A screen shows 9.0E+0. What number does it represent?

ANSWER _____

6 Which is greater, 3.7E+5 or 4.1E+4? Write both in ordinary form to show how you know.

ANSWER _____

APPLY IT Show your work

1 A video app shows 4.5E+6 views for one clip and 1.2E+6 views for another. How many more views does the first clip have?

WORK SPACE

ANSWER _____

2 Two game downloads are 2.4E+8 bytes and 8.0E+7 bytes. How many times as large is the first download as the second?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A player says 4.7E-4 is greater than 3.2E-3 because 4.7 is greater than 3.2. Is the player correct? Use ordinary form to explain.

WORK SPACE AND ANSWER

ANSWER KEY

Decode the Display

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Write 6.3E+4 in ordinary form.	**63,000**
2	Write 7.5E-3 in ordinary form.	**0.0075**
3	Write 1.09E+6 in ordinary form.	**1,090,000**
4	Write 2.04E-5 in ordinary form.	**0.0000204**
5	A screen shows 9.0E+0. What number does it represent?	**9**
6	Which is greater, 3.7E+5 or 4.1E+4? Write both in ordinary form to show how you know.	**3.7E+5 is greater. It is 370,000, while 4.1E+4 is 41,000.**

PART 2 · APPLY IT

1. **3,300,000 views** The counts are 4,500,000 and 1,200,000. Subtract to get 3,300,000.
2. **3 times as large** The sizes are 240,000,000 and 80,000,000 bytes. Divide 240,000,000 by 80,000,000 to get 3.

CHALLENGE

No. 4.7E-4 is 0.00047, and 3.2E-3 is 0.0032, so 3.2E-3 is greater.

Accept equivalent numbers with or without commas. For comparisons, check that students account for the exponent, not just the digits before E.