Warm-up April 20th   No Calculators

1) The area of the surface of the Atlantic Ocean is approximately 31,830,000 square miles. How is this area written in scientific notation?

A 3.183×10^4

B 3.183×10^5

C 3.183×10^6

D 3.183×10^7

4)2) Which function is nonlinear?

A $y = \dfrac{3x + 1}{2}$

B $y = {}^-x$

C $y = 2x(x - 4)$

D $y = \frac{1}{2}x - 7$

5)
3) In which choice do all the points lie on the same line?

A $(0, {}^-2), (1, {}^-1), (2, 2), (3, 7)$

B $(0, 0), (1, 1), (2, 4), (3, 9)$

C $(0, 0), (1, 1), (2, 8), (3, 27)$

D $(0, 0), (1, 2), (2, 4), (3, 6)$

Warm-up April 20th   No Calculators

1) The area of the surface of the Atlantic Ocean is approximately 31,830,000 square miles. How is this area written in scientific notation?

3.183×10^7

    A 3.183×10^4

    B 3.183×10^5

    C 3.183×10^6

    D 3.183×10^7

2) Which function is nonlinear?

x and y are to the 1st power

    A $y = \dfrac{3x + 1}{2}$

    B $y = {}^-x$

    C $y = 2x(x - 4)$

             $2x^2 - 8x$

    D $y = \frac{1}{2}x - 7$

3) In which choice do all the points lie on the same line?

    A $(0, {}^-2), (1, {}^-1), (2, 2), (3, 7)$

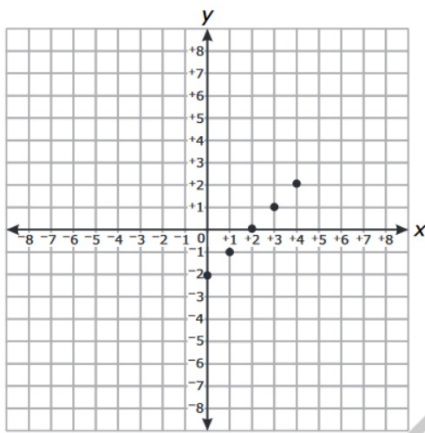   B $(0, 0), (1, 1), (2, 4), (3, 9)$

    C $(0, 0), (1, 1), (2, 8), (3, 27)$
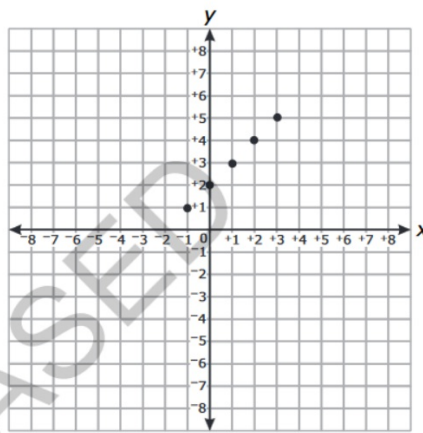
    D $(0, 0), (1, 2), (2, 4), (3, 6)$

+1   +1   +1

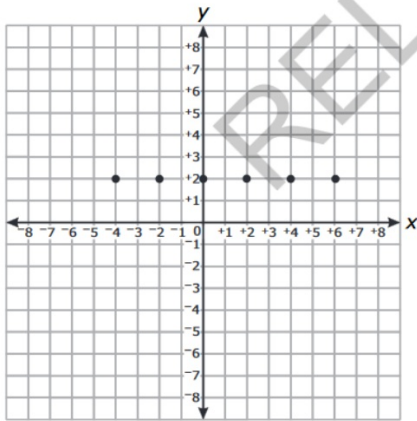**4)** In which graph do all of the plotted points lie on the line $y = x + 2$?
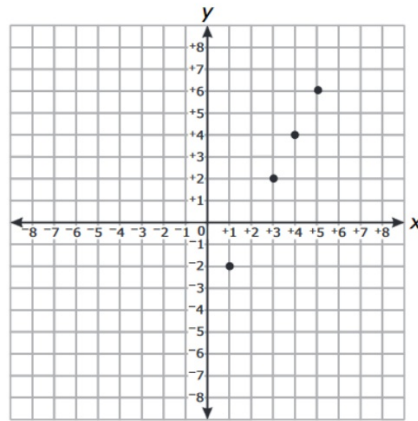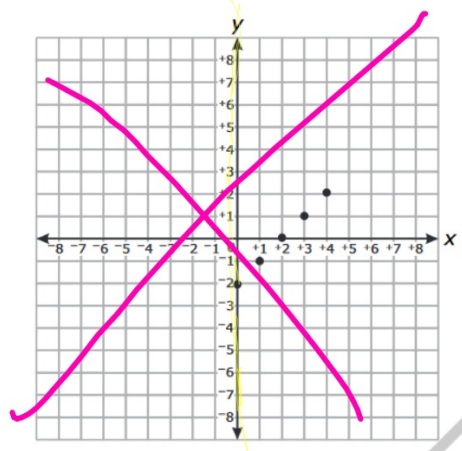
A

B

C

D

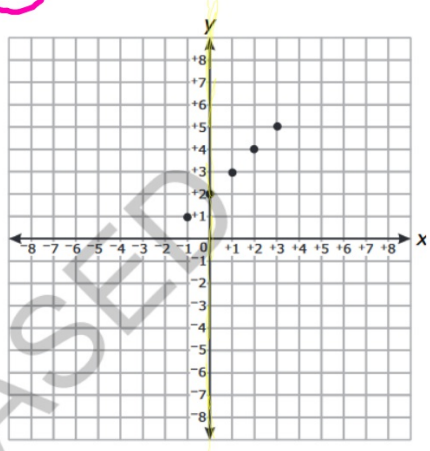**24)** In which graph do all of the plotted points lie on the line $y = x + 2$?

A
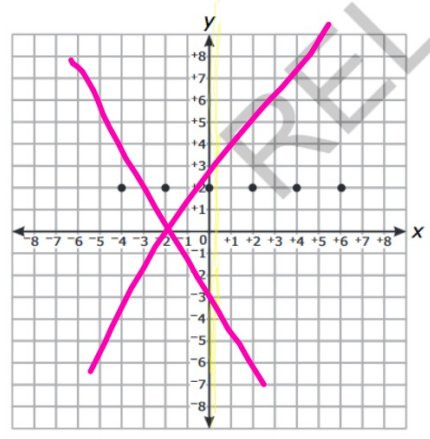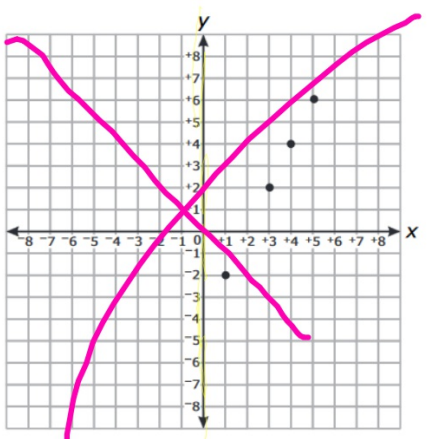

B

C

D

Recall: Scientific notation is a way to write very small and very big numbers.

Numbers in scientific notation have three parts:
1) a number that is $1 \leq x < 10$
2) an X for times
3) 10 raised to an exponent

Ex. 2.14×10^{-3} 5.82×10^{8} (Scientific Notation)

Standard Form is the normal way you write a number.

Ex. 0.00214   582,000,000 (Standard Form)

* I can write numbers in standard form and scientific notation.

Try These
Write these in standard form.
1) 8.75×10^{-4} 2) 3.46×10^{4}

Write these in scientific notation.
3) 28,000   4) 0.00753

* I can write numbers in standard form and scientific notation.

<u>Try These</u>
Write these in standard form.
1) 8.75×10^{-4} 2) 3.46×10^{4}

.000875   34,600

Write these in scientific notation.
3) 28,000   4) 0.00753

2.8×10^{4}

7.53×10^{-3}

We perform the four operations with scientific notation.

When you add and subtract numbers in scientfic notation, write them in standard form first, then add or subtract.

**Recall: Calculator button for scientific notation is 2nd and comma. (EE- stands for X 10)

When you multiply and divide numbers in scientific notation, you multiply or divide the decimal number and use exponent rules for the power of 10 part.

You can also use the calculator.

Try these without the calculator. Then use the calculator to check.

5) $(1.2 \times 10^5)(3.8 \times 10^{-2})$

6) $\dfrac{4.4 \times 10^3}{2.2 \times 10^{-2}}$

7) $2.1 \times 10^{-2} - 4.56 \times 10^{-1}$

8) $3.25 \times 10^2 + 8.36 \times 10^3$

* I can add, subtract, multiply and divide numbers in scientific notation.

Try these without the calculator. Then use the calculator to check.

5) $(1.2 \times 10^5)(3.8 \times 10^{-2})$

$(1.2 \cdot 3.8) \times (10^5 \cdot 10^{-2})$

4.56×10^3

6) $\dfrac{4.4 \times 10^3}{2.2 \times 10^{-2}}$

$\left(\dfrac{4.4}{2.2}\right) \times \left(\dfrac{10^3}{10^{-2}}\right)$

2×10^5

7) $2.1 \times 10^{-2} - 4.56 \times 10^{-1}$

$.021 - .456$

$-.435$

$\begin{array}{r} .456 \\ -.021 \\ \hline .435 \end{array}$

8) $3.25 \times 10^2 + 8.36 \times 10^3$

$325 + 8360$

$8,685$

9) Mt. Everest rises 54,768 feet in the air while Mt. Rushmore stretches a mere 8,976 feet. What is the difference in the height of these two mountains expressed in scientific notation?_____

$$54,768$$
$$-\ \ 8,976$$
$$45,792$$

$$45,792$$

$$4.5792 \times 10^4$$

10) The Great Salt Lake covers about 45,800 mi². Lake Tahoe covers about 7,725 mi². What is the total area covered expressed in scientific notation?

$$45,800$$
$$+\ \ 7,725$$
$$53,525$$

$$53,525$$

$$5.3525 \times 10^4$$

10) Mt. Everest rises 54,768 feet in the air while Mt. Rushmore stretches a mere 8,976 feet. What is the difference in the height of these two mountains expressed in scientific notation?_____

$$54{,}768$$
$$-\ 8{,}976$$
$$45{,}792 = 4.5792$$

11)The Great Salt Lake covers about 45,800 mi². Lake Tahoe covers about 7,725 mi². What is the total area covered expressed in scientific notation?

$$5.3525 \times 10^{4}$$

$$53525$$

$$45{,}800$$
$$+\ 7{,}725$$
$$53525$$

Practice:**http://tinyurl.com/SCMSScientificNotation**

There are several links on this blendspace with lots of practice.

Work through two of the practice worksheets on the topics you need to review.

HW Scientific Notation Worksheet Word Problems