

8TH GRADE MATHEMATICS TEST PREP

QUESTION #1

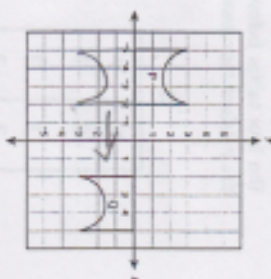
Which number is equivalent to $\frac{3^4}{3^2}$?

- A 2
 B 9
 C 81
 D 729

$$3^{4-2} = 3^2 \rightarrow 9$$

QUESTION #2

Figure Q was the result of a sequence of transformations on figure P, both shown below.



Which sequence of transformations could take figure P to figure Q?

- A reflection over the x-axis and translation 7 units right
 B reflection over the y-axis and translation 3 units down
 C translation 1 unit right and 180° rotation about the origin
 D translation 4 units right and 180° rotation about the origin

QUESTION #3

Determine the product.

$$800.5 \times (2 \times 10^5)$$

- A 1.7×10^7
 B 1.601×10^7
 C 1.7×10^9
 D 1.601×10^9

$$\begin{aligned} 1) 800.5 \times 2 &= 1601 \\ 2) 1601 &\times 10^{5+3} \\ 3) 1.601 &\times 10^9 \end{aligned}$$

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QUESTION #4

At a given time, Saturn was 9.1×10^8 miles from the Sun and Earth was 9.3×10^7 miles from the Sun. By what distance is one planet closer to the Sun than the other planet?

- A 2×10^1
 B 2×10^{15}
 C 8.17×10^7
 D 8.17×10^8

$$\begin{aligned} 9.1 \times 10^8 & \\ - 9.3 \times 10^7 & \rightarrow 91.0 \times 10^7 \\ & \rightarrow 91.0 - 9.3 = 81.7 \end{aligned}$$

QUESTION #5

The combined volume of all the tanks at an aquarium is 1.25×10^5 gallons. The aquarium plans to install a new dolphin tank with a volume of 250,000 gallons. What will be the total volume of all of the tanks at the aquarium after the new dolphin tank is installed?

- A 1.5×10^5
 B 3.75×10^5
 C 1.5×10^6
 D 3.75×10^6

$$\begin{aligned} 1.25 \times 10^5 & \\ + 2.5 \times 10^5 & \\ \hline 3.75 \times 10^5 & \end{aligned}$$

Question 6
 Rectangle R undergoes a dilation with scale factor 0.5 and then a reflection over the y-axis. The resulting image is Rectangle S. Which statement about Rectangles R and S is true?

- A They are congruent and similar.
 B They are similar but not congruent.
 C They are congruent but not similar.
 D They are neither congruent nor similar.

Dilation ALWAYS creates similar figures.

QUESTION #6

ON ANSWER SHEET