1.

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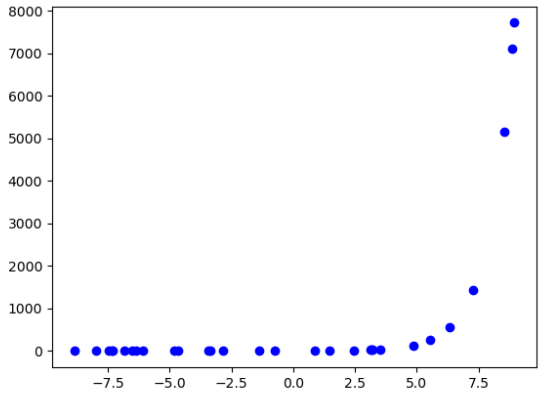
2. Determine the appropriate model for the graph of points below.



A. Exponential model

B. Non-linear Power model

C. Logarithmic model

D. Linear model

E. None of the above

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3. Solve the modeling problem below, if possible.

A new virus is spreading throughout the world. There were initially 7 many cases reported, but the number of confirmed cases has quadrupled every 4 days. How long will it be until there are at least 10000 confirmed cases?

A. About 21 days

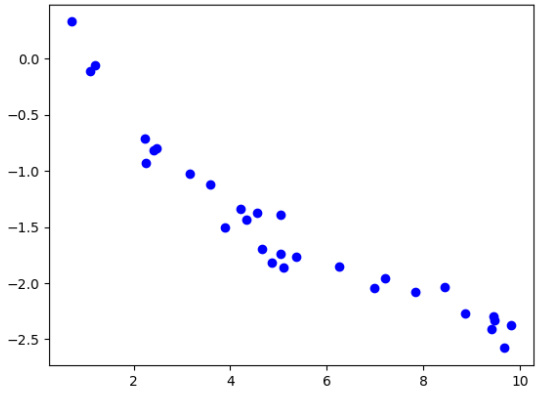
B. About 13 days

C. About 12 days

D. About 30 days

E. There is not enough information to solve the problem.

4. Determine the appropriate model for the graph of points below.



A. Logarithmic model

B. Non-linear Power model

C. Linear model

D. Exponential model

E. None of the above

5. For the scenario below, use the model for the volume of a cylinder as $V = \pi r^2 h$.

Pringles wants to add 48 percent more chips to their cylinder cans and minimize the design change of their cans. They've decided that the best way to minimize the design change is to increase the radius and height by the same percentage. What should this increase be?

A. About 24 percent

B. About 14 percent

C. About 22 percent

D. About 4 percent

E. None of the above

6. Solve the modeling problem below, if possible.

A new virus is spreading throughout the world. There were initially 5 many cases reported, but the number of confirmed cases has quadrupled every 4 days. How long will it be until there are at least 1000000 confirmed cases?

A. About 49 days

B. About 36 days

C. About 19 days

D. About 22 days

E. There is not enough information to solve the problem.

7. Solve the modeling problem below, if possible.

In CHM2045L, Brittany created a 23 liter 26 percent solution of chemical χ using two different solution percentages of chemical χ. When she went to write her lab report, she realized she forgot to write the amount of each solution she used! If she remembers she used 13 percent and 29 percent solutions, what was the amount she used of the 29 percent solution?

A. 5.43

B. 4.31

C. 11.50

D. 18.69

E. There is not enough information to solve the problem.

8. Solve the modeling problem below, if possible.

In CHM2045L, Brittany created a 16 liter 16 percent solution of chemical χ using two different solution percentages of chemical χ. When she went to write her lab report, she realized she forgot to write

the amount of each solution she used! If she remembers she used 16 percent and 29 percent solutions, what was the amount she used of the 29 percent solution?

A. 8.00

B. 2.93

C. 0.00

D. 16.00

E. There is not enough information to solve the problem.

9.

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10. For the scenario below, use the model for the volume of a cylinder as $V = \pi r^2 h$.

Pringles wants to add 48 percent more chips to their cylinder cans and minimize the design change of their cans. They've decided that the best way to minimize the design change is to increase the radius and height by the same percentage. What should this increase be?

A. About 14 percent

B. About 24 percent

C. About 4 percent

D. About 22 percent

E. None of the above
