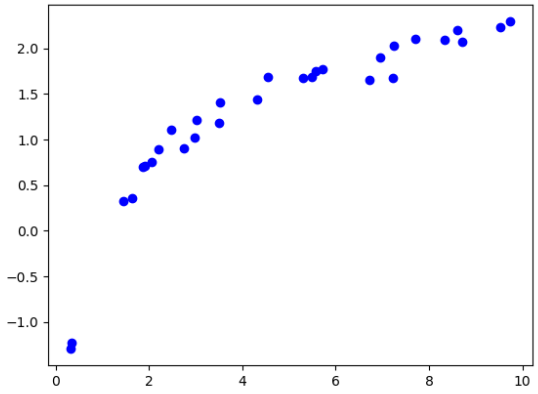
1. Determine the appropriate model for the graph of points below.



A. Logarithmic model

B. Linear model

C. Exponential model

D. Non-linear Power model

E. None of the above

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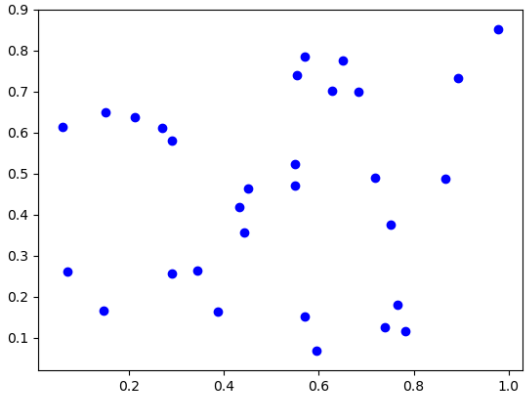
2. Determine the appropriate model for the graph of points below.



A. Exponential model

B. Linear model

C. Logarithmic model

D. Non-linear Power model

E. None of the above

3.

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4. 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 2 days. How long will it be until there are at least 10000 confirmed cases?

A. About 7 days

B. About 11 days

C. About 16 days

D. About 8 days

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

5.

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6. Solve the modeling problem below, if possible.

In CHM2045L, Brittany created a 26 liter 30 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 10 percent and 37 percent solutions, what was the amount she used of the 37 percent solution?

A. 6.74

B. 11.19

C. 13.00

D. 19.26

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

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

Pringles wants to add 35 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 3 percent

B. About 18 percent

C. About 16 percent

D. About 11 percent

E. None of the above

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8. Solve the modeling problem below, if possible.

A new virus is spreading throughout the world. There were initially 8 many cases reported, but the number of confirmed cases has doubled every 3 days. How long will it be until there are at least 1000 confirmed cases?

A. About 15 days

B. About 21 days

C. About 8 days

D. About 7 days

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

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9. Solve the modeling problem below, if possible.

In CHM2045L, Brittany created a 15 liter 12 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 9 percent and 31 percent solutions, what was the amount she used of the 31 percent solution?

A. 7.50

B. 12.95

C. 2.05

D. 4.76

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

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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 31 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 16 percent

B. About 3 percent

C. About 9 percent

D. About 14 percent

E. None of the above
