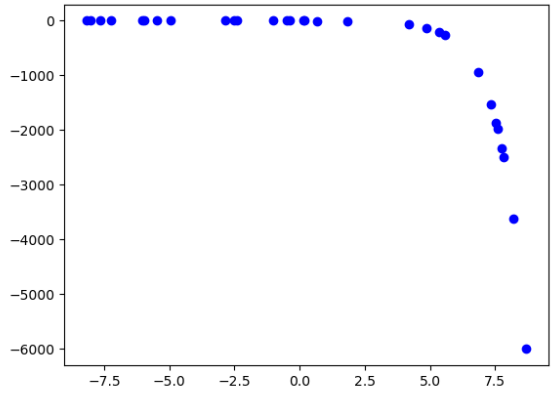
1.

---

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



A. Linear model

B. Logarithmic model

C. Non-linear Power model

D. Exponential model

E. None of the above

---

3. Solve the modeling problem below, if possible.

A new virus is spreading throughout the world. There were initially 6 many cases reported, but the number of confirmed cases has quadrupled every 5 days. How long will it be until there are at least 10000 confirmed cases?

A. About 38 days

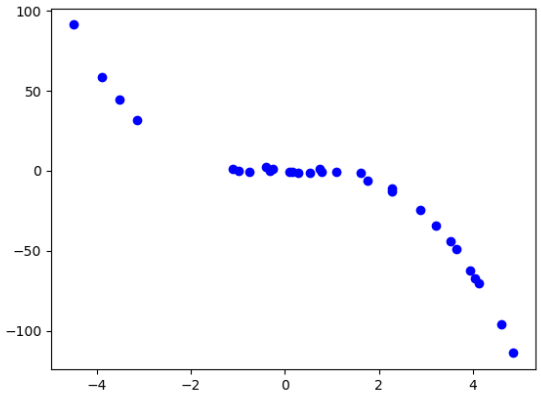
B. About 17 days

C. About 27 days

D. About 15 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. Linear model

C. Non-linear Power 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 1000 confirmed cases?

A. About 10 days

B. About 11 days

C. About 22 days

D. About 16 days

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

---

7. Solve the modeling problem below, if possible.

In CHM2045L, Brittany created a 15 liter 18 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 15 percent and 29 percent solutions, what was the amount she used of the 15 percent solution?

A. 7.50

B. 3.21

C. 8.30

D. 11.79

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

---

8. Solve the modeling problem below, if possible.

In CHM2045L, Brittany created a 17 liter 36 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 20 percent and 40 percent solutions, what was the amount she used of the 40 percent solution?

A. 12.62

B. 8.50

C. 3.40

D. 13.60

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

9.

---

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

Pringles wants to add 23 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 12 percent

B. About 3 percent

C. About 11 percent

D. About 7 percent

E. None of the above
