

Name _____

Date _____ Pd. _____

Notes: Inverse Variation Continued

Use Inverse Variation If two points (x_1, y_1) and (x_2, y_2) are solutions of an inverse variation, then $x_1 \cdot y_1 = k$ and $x_2 \cdot y_2 = k$.

Product Rule or Inverse Variation	the equation
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From the product rule, you can form the proportion

Example

If y varies inversely as x and $y = 12$ when $x = 4$, find x when $y = 18$.

Method 1 Use the product rule.

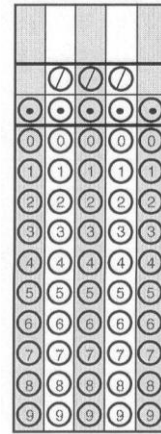
Method 2 Use a proportion.

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Exit Card: Inverse Variation Continued

The number of hours it takes to do a job varies inversely as the number of workers. If it takes 6 workers 8 hours to do a job, how many hours will it take 5 workers to do the same job?

**BCR**

Look at the table of values for a function below:

x	$f(x)$
2	7
3	12
4	19
5	28
6	39

Does the table of values represent a linear, a quadratic, or an exponential function. Explain how you determined your answer. Use words, symbols or both in your explanation.

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Homework: Pages 645 – 646 (29 – 33)

29. A rectangle is 36 inches wide and 20 inches long. How wide is a rectangle of equal area if its length is 90 inches?

30. The pitch of a musical note varies inversely as its wavelength. If the tone has a pitch of 440 vibrations per second and a wavelength of 2.4 feet, find the pitch of a tone that has a wavelength of 1.6 feet.

31. Students at Roosevelt High School are collecting canned goods for a local food pantry. They plan to distribute flyers to homes in the community asking for donations. Last year, 12 students were able to distribute 1000 flyers in nine hours. How long would it take 15 students to hand out the same number of flyers this year?

The Zalinski family can drive the 220 miles to their cabin in 4 hours at 53 miles per hour. Son Jeff claims that they could save half an hour if they drove 65 miles per hour, the speed limit.

32. How long will it take the family if they drive 65 miles per hour?

33. How much time would be saved driving at 65 miles per hour?