Direct and Inverse Proportion

Year 11 · Ratio & Proportion · y11-ratio-proportion

Name: _____ Date: _____

Class: _____ Score: _____ / _____

Instructions
Answer every question in Practice. Try the Challenge section once Practice is complete. 10 questions in total.

Practice

1. y is directly proportional to x: y = kx. y = 15 when x = 3, so k = 5. What is y when x = 7?

2. y is inversely proportional to x: y = k/x. y = 4 when x = 5, so k = 20. What is y when x = 2?

3. y is directly proportional to x, so y = kx. y = 24 when x = 6. First find k, then find y when x = 9.

4. In direct proportion, as x increases, y increases too. In inverse proportion, as x increases, y decreases. If 4 workers take 15 hours to finish a job, and more workers means less time, is time inversely or directly proportional to the number of workers?

5. y is directly proportional to x. y = 18 when x = 3. Find the constant k, then find y when x = 10.

6. For direct proportion y = kx, find k by dividing y by x, then multiply by the new x value. y = 21 when x = 3, so k = 7. What is y when x = 5?

7. For inverse proportion y = k/x, find k by multiplying y by x, then divide k by the new x value. y = 10 when x = 6, so k = 60. What is y when x = 12?

8. Always find the constant k first using the given pair of values, before finding a new y value. y is directly proportional to x, and y = 32 when x = 8. Find k, then find y when x = 5.

Challenge

1. y is directly proportional to x^2. y = 32 when x = 4, so k = 2. What is y when x = 6? ($k \times 6^2$)

2. y is inversely proportional to x^2. y = 3 when x = 2, so k = 12. What is y when x = 4? ($k \div 4^2$)