

Understand and Apply



- Write an equivalent ratio with 30 as one of the terms.
 - 2 : 5
 - 3 : 1
 - $\frac{3}{4}$
 - 12 : 6
 - 20 to 10
 - $\frac{24}{8}$
- Write an equivalent ratio whose second term is 40.
 - 3 to 2
 - 6 : 8
 - $\frac{9}{10}$
- Write an equivalent ratio whose first term is 60.
 - 12 to 6
 - 3 : 2
 - $\frac{2}{5}$
- Express each ratio in lowest terms.
 - 15 to 12
 - 21 : 6
 - $\frac{24}{18}$



- The Record Barn displayed 15 cassettes and 9 CDs for a new release. In one hour, they sold 3 cassettes and 3 CDs. What is the ratio of the remaining cassettes to CDs?
 - Is it equivalent to 5 : 3? Explain why or why not.



- The loudness of sound is measured in decibels (db). A normal voice is about 60 db. A whisper is about 20 db. A vacuum cleaner is about 80 db and a chain saw is about 100 db. An amplified record or a live rock band might be about 120 db. An increase of 10 db describes a sound transmitting ten times as much energy.
 - Which sounds are in the ratio 100 : 1?
 - What is the ratio of the sound of a whisper to the sound of a chain saw?
 - How much louder is a live rock band than a vacuum cleaner?



In Your Journal

Summarize how you express a ratio in lowest terms and how you can test whether two ratios are equivalent.

- Which ratio is greater?
 - 4 : 1 or 10 : 3
 - 15 : 100 or 1 : 5
 - 6 : 5 or 4 : 3
 - 6 : 11 or 7 : 12
- A survey showed that residents of City A were 2 to 1 in favor of higher parking fines. What does this mean?
 - In City B, the same survey showed the residents 3 to 2 in favor. The newspaper reported a greater ratio of support in City A. How can you compare two ratios?
 - Write a ratio equivalent to 2 : 1 with 2 as the second term. What do you notice about its first term, compared to the first term of the ratio 3 : 2?
- When 1 cm of snow melts, it produces 1 mm of water. How do you have to change the data to express the ratio of snow to water? Explain why.

List items that are sold in different forms or sizes, like cassettes and CDs. How are they displayed? Are different forms and sizes displayed in the same quantities? Record the ratios. Why do you think some forms are more popular than others?

