COMPARING RATES In Exercises 28 and 29, tell which rate is greater.

28. $1\frac{1}{4}$ miles in 2 minutes and 4 seconds, or $1\frac{3}{16}$ miles in 1 minute and 55 seconds

29. $1.60 for 5 minutes, or $19.50 for 1 hour

30. **CHALLENGE** Look for a pattern in the expressions shown below. Use the pattern to write an expression for the sum of the whole numbers from 1 to n. Then find the sum of the whole numbers from 1 to 50.

$$1 + 2 = \frac{2 \cdot 3}{2} \qquad\qquad 1 + 2 + 3 = \frac{3 \cdot 4}{2} \qquad 1 + 2 + 3 + 4 = \frac{4 \cdot 5}{2}$$

PROBLEM SOLVING

31. **TICKET PRICES** Tickets to a science museum cost $19.95 each. There is a $3 charge for each order no matter how many tickets are ordered. Write an expression for the cost (in dollars) of ordering tickets. Then find the total cost if you order 5 tickets.

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32. **FOSSIL FUELS** Fossil fuels are produced by the decay of organic material over millions of years. To make one gallon of gas, it takes about 98 tons of organic material, roughly the amount of wheat that could be harvested in a 40 acre field. Write an expression for the amount (in tons) of organic material it takes to make g gallons of gas. How many tons would it take to make enough gas to fill a car's 20 gallon gas tank?

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33. **MULTI-STEP PROBLEM** A 48 ounce container of juice costs $2.64. A 64 ounce container of the same juice costs $3.84.

   a. Find the cost per ounce of each container.

   b. Which size container costs less per ounce?

   c. You want to buy 192 ounces of juice. How much do you save using the container size from your answer to part (b)?

34. **TAKS REASONING** *Describe* a real-world situation that can be modeled by the rate $\frac{30}{x}$ where x is a period of time (in hours). Identify the units for 30. Choose a value for x and find the unit rate.

35. **WILDLIFE EDUCATION** A wildlife center presents a program about birds of prey. The center charges a basic fee of $325 and an additional fee for each bird exhibited. If 5 birds are exhibited, the additional fee is $125. What is the total cost if 7 birds are exhibited?

36. **DIGITAL PHOTOS** Your printer takes 36 seconds to print a small photo and 60 seconds to print a large one. Write an expression for the time (in seconds) your printer would take to print a batch including both small and large photos. Then find the time your printer would take to print 12 small photos and 5 large photos.