

1. Continue the sequence with one more term:

- a. 1, 4, 9, 16 ...      b. 1, 8, 27, ...      c. 1, 4, 8, 16 ...      d. 1, 3, 9, 27 ...

2. What should be the exponent for the equation to hold?

- a.  $8^* = 512$ ;      b.  $2^* = 64$ ;      c.  $3^* = 81$ ;      d.  $7^* = 343$

3. What digits should be put instead of \* to get true equality? How many solutions does each problem have?

- a.  $(2^*)^2 = ** 1$ ;      b.  $(3^*)^2 = *** 6$   
 c.  $(7^*)^2 = *** 5$       d.  $(2^*)^2 = ** 9$ ,      e.  $(3^*)^2 = ** 1$

4. Represent the speed

- a. in meters per minute  $\left(\frac{m}{min}\right)$        $24 \frac{km}{h}$ ;       $15 \frac{m}{s}$   
 b. in meters per second  $\left(\frac{m}{s}\right)$        $540 \frac{m}{min}$ ;       $90 \frac{km}{h}$ ;  
 c. in kilometers per hour  $\left(\frac{km}{h}\right)$        $5 \frac{m}{s}$ ;       $100 \frac{m}{min}$ ;

5. Do the calculation in your head, just write the answer.

- a.  $8.4 : 4$ ;      b.  $1.6 : 8$ ;      c.  $0.81 : 9$       d.  $2.8 : 70$ ;  
 e.  $0.8 \cdot 0.7$ ;      f.  $60 \cdot 0.03$ ;      g.  $1.2 \cdot 0.6$       h.  $3.5 \cdot 0.02$ ;  
 i.  $0.3^2$ ;      j.  $0.2^3$ ;      k.  $0.07^2$       l.  $0.01^2$ ;

6. Write the expression to solve the problem, then solve it for the given values of the variables.

Example: There are  $p$  textbooks in the first box. In the second box, there are 84 more textbooks than in the first. How many times more textbooks are there in the second box than in the first? (Given:  $p = 42$ )

$$\frac{p + 84}{p} = \frac{42 + 84}{42} = 3$$

- a. There are  $s$  students in the fourth grade. In the fifth grade, there are 35 more students. How many students are there in both grades altogether? (Given:  $s = 125$ )
- b. There are  $b$  cherry turnovers in the bakery shop and three times as many apple turnovers. How many fewer cherry turnovers are there than apple turnovers? (Given:  $b = 15$ )

7. A farmer has a cow, a goat, and a goose. The cow and the goat will eat all the grass on his meadow in 45 days, the cow and the goose will eat all the grass on the same meadow in 60 days, and the goat and the goose will eat all the grass on the meadow in 90 days. How many days will it take them altogether to eat all the grass on the meadow? (We assume that new grass is not growing.)

