

60. The two digits in the numerator of a fraction are reversed in its denominator. If 1 is subtracted from both the numerator and the denominator, the value of the resulting fraction is $\frac{1}{2}$. The fraction whose numerator is the difference and whose denominator is the sum of the units and tens digits equals $\frac{2}{5}$.
61. The length of one side of a right triangle, expressed in inches, is one inch less than twice the length of the other. The hypotenuse is one inch more than twice the length of the latter side. Find the length of each side.
62. The lengths of the sides of a right triangle have a ratio of 8:15. The hypotenuse is 34 centimeters in length. Find the length of each side.
63. The length and width of a rectangle are in the ratio 4 to 3. If the area of the rectangle is 36 square inches, what are its dimensions?
64. Will a square whose area is 36 square inches fit inside a circle whose area is 54 square inches? Support your answer with calculations.
65. The square root of 5 less than one third a number is 10. What is the number?
66. The dimensions of a sheet of paper can be represented by consecutive odd integers. Its area is 99 square inches. Find its dimensions.
67. The members of a certain organization decided to donate 2000 dollars to charity, and to share the cost of the contribution equally. If the club had 20 more members, each would have contributed 5 dollars less. How many members now belong to the organization?
68. The perimeter of a triangle is 3 feet. Two sides form a right angle and are in the ratio of 3:4. Find the lengths of all 3 sides.
69. At Hillsdale High School 1000 students buy lunch every day for 25¢ each. If the cafeteria raises the price, for each increase of 1¢, 4 students will bring their own lunches. After a price increase, \$44 more than usual was taken in by the cafeteria. How many students had stopped buying lunch?
70. A boat takes 1 hour longer to go 36 miles up a river than to return. If the river flows at 3 miles per hour, find the rate at which the boat travels in still water.
71. The angle of elevation from an observer on the ground to a weather balloon 70,000 feet above the ground is 63° . How far from the observer is the point on the ground directly beneath the balloon?
72. A ship leaves harbor and sails on a constant heading in a general northeasterly direction. If the seacoast runs directly north and south, what angle does the path of the ship make with the coast if the ship is 80 miles from the coast after it has sailed 110 miles?
73. When a stepladder with legs 8 feet long is standing open the legs are 3 feet apart at the bottom. How long is a brace of the ladder parallel to the ground if the brace is located 3 feet down each leg from the top?