



Another Way to Solve Example 4, page 143

MULTIPLE REPRESENTATIONS In Example 4 on page 143, you saw how to solve a problem about scuba diving by using an equation. You can also solve the problem using a table.

PROBLEM

SCUBA DIVING As a scuba diver descends into deeper water, the pressure of the water on the diver's body steadily increases. The pressure at the surface of the water is 2117 pounds per square foot (lb/ft^2). The pressure increases at a rate of 64 pounds per square foot for each foot the diver descends. Find the depth at which a diver experiences a pressure of 8517 pounds per square foot.

METHOD

Making a Table An alternative approach is to make a table.

STEP 1 **Make** a table that shows the pressure as the depth increases. Because you are looking for a fairly high pressure, use larger increments in depth, such as 20 feet.

Every 1 ft of depth increases the pressure by 64 lb/ft^2 .

Every 20 ft of depth increases the pressure by $64(20) = 1280 \text{ lb}/\text{ft}^2$.

Depth (ft)	Pressure (lb/ft^2)
0	2117
1	2181
2	2245
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20	3397
40	4677
60	5957
80	7237
100	8517

**STEP 2** **Look** for the depth at which the pressure reaches 8517 pounds per square foot. This happens at a depth of 100 feet.

**PRACTICE**

- BASKETBALL** A sports club offers an organized basketball league. A team pays \$600 to join the league. In addition to paying their share of the \$600, team members who are not members of the sports club must pay a \$25 fee to play. A team pays a total of \$775. How many team members who are not club members are on the team? Solve this problem using two different methods.
- WHAT IF?** In Exercise 1, suppose you are on a team, but not a club member. The \$600 cost is divided equally among the team members. How many players must there be on your team for you to pay \$100 to play? Make a table to find the answer.
- FURNITURE** You have \$370 to spend on a dining table and chairs. A table costs \$220, and each chair costs \$35. How many chairs can you buy in addition to the table? Solve this problem using two different methods.