Linear Models



4. What are suitable units for the rate of change of this situation?

- 5. What is the rate of the change of this situation?
- 6. Create an equation to model this situation.
- 7. Use your equation to determine the number of days required to complete the harvest.



As a scuba diver descends below the water's surface, the pressure exerted on the diver increases. At the surface, the pressure is 1 atmosphere or 101.33 kilopascals (kPa). For each 5 m that the diver descends, the pressure increases by 49.03 kPa.

1. Complete the table of values below and verify a linear relationship.

Depth (m)	Pressure (kPa)
0	
5	
10	
15	
20	
25	

2. Create an equation to model this situation.

3. If the pressure exceeds 1200 kPa, the oxygen component in the compressed air that the diver is breathing becomes toxic. Use your equation to determine the depth at which this occurs.