# CONNECTING AND COMMUNICATING WHAT WE KNOW ABOUT: <br> RELATED RATES 

| VERBAL | TUATION | EQUATIONS |
| :---: | :---: | :---: |
| A ladder 25 feet long is outside wall of a hous the ladder is pulled aw rate of 2 feet per seco <br> Make a sketch of the situ variables and/or relev | leaning against the The base/bottom of y from the wall at a d. <br> VING <br> uation, labeling all nt quantities | (a) Write an equation that relates the relevant variables of the problem situation: |
| TABLE |  | ANALYSIS |
| Fill in the table showing how fast the top of the ladder moves down the wall, when its base is $x$ feet from the wall. |  | (a) Consider the triangle formed by the side of the house, the ladder and the ground. Find the rate at which the |
| Distance of base of ladder from the wall | Rate at which ladder moves down the wall | the base of the ladder is seven feet from the wall. |
| $x$ |  |  |
| 7 |  | (b) Find the rate at which the angle between the ladder and the wall of the house is changing when the base of the ladder is 7 feet from the wall. |
| 15 |  |  |
| 24 |  |  |

