|  |  |  |
| --- | --- | --- |
| **The Problem** | **The Set-Up** | **The Work** |
| 1. How tall is the building?

Hypotenuse – greenOpposite – purpleAdjacent - pink | *Highlight indicated parts.* |  |
| 1. A kite in the sky is attached to a 155 m long string. The string forms a 73˚ angle with the ground. How high above the ground is the kite?

Hypotenuse – greenOpposite – purple Adjacent - pink | *Highlight and fill in known values.* |  |
| 1. A ladder meets a building 11.3 feet above the base of the building and forms a 70 ˚ angle with the ground. How long is the ladder?

Hypotenuse – greenOpposite – purpleAdjacent - pink | *Highlight and fill in known values.* |  |
| 1. A rock dropped from the top of the Leaning Tower of Pisa falls to a point 14 feet from its base. If the tower is 182 feet tall (vertical height), at what angle does it lean at the ground?

Hypotenuse – greenOpposite – purple Adjacent - pink  | *Highlight and fill in known values.* |  |
| **The Problem** | ***The Set-Up*** | **The Work** |
| 1. A mine shaft is 300 m deep and makes an angle of 65°

 with the horizontal ground. How long is the shaft?Hypotenuse – greenOpposite – purpleAdjacent - pink  | *Draw the situation on the ∆.* *Highlight and fill in information.* |  |
| 1. A 90-foot escalator rises 28 feet vertically. What is the angle that the escalator makes with the floor?

Hypotenuse – greenOpposite – purpleAdjacent - pink  | *Draw the triangle, highlight and* *Fill in information.* |  |
| 1. Sonar on a destroyer detects a submarine at a depth of 200 m. If the angle is 31°, how far apart are the two vessels?

Hypotenuse – greenOpposite – purple Adjacent - pink  | *Depict the situation, highlight, and fill in known values.* |  |
| 1. **Challenge:** A ladder is mounted on a fire truck, six feet above the ground. If the maximum length of the ladder is 120 feet and the maximum angle to which it can be raised is 75°, how high up will it reach?

Hypotenuse – greenOpposite – purpleAdjacent - pink  | *Depict the situation, highlight, and fill in known values.* |  |