**Math 11 AWP Unit 5 – Slope and Rates of Change**

Assignment 2 – Slope

1. Calculate the slope as a fraction in the simplest form and as a decimal.

|  |  |  |
| --- | --- | --- |
| Rise | Run | Slope |
| As a fraction ($m=\frac{rise}{run}$) | As a decimal |
| 18 m | 63 m |  |  |
| 21 m | 49 m |  |  |
| 1.2 cm | 0.6 cm |  |  |
| 12.4 mm | 4.6 mm |  |  |
| 300 ft | 900 ft |  |  |

1. Use the information given to complete the table.

|  |  |  |
| --- | --- | --- |
| Rise | Run | Slope |
| 15 ft |  | $$\frac{1}{4}$$ |
| 12 cm |  | 0.375 |
|  | 16 m | $$\frac{9}{5}$$ |
|  | 42 in | $$\frac{32}{7}$$ |
| 63 m |  | 3.0 |
| 19.5 ft |  | 0.25 |

1. Zane is designing a small waterslide for children to play on. If the slide has a run of 120 inches and a height of 56 inches, what is the slope of the slide?
2. A safe slope for a ladder is 1 ft of run for every 4 ft of rise. Vincent needs to use a ladder to reach a window sill that is 22 ft above the ground. How far from the house should the base of the ladder be?
3. Harj is digging a drainage ditch. It must drop 3 cm for every 1.5 m of horizontal distance. How much will it drop in a horizontal distance of 25 m?
4. The slope of a hill is an average of 0.64. How many metres will it rise for a horizontal distance of 32 metres?
5. Hazuki needs to calculate the slope of the water table – the elevation at which water is found underground. One well has water at 752 m elevation and the other has it 895 m elevation. If the wells are 1.2 km apart, what is the slope of the water table?
6. Calculate the slope of the roof and the diagonal trusses.



1. Alfred wants to make a doll house that is a copy of his own house. The roof of his house is 10.8 m wide and is 2.4 m higher at the centre than the edges. If the doll house is 1.6 m wide, what will be the rise of the roof?