

## Section 3.5b - Applying the Normal Distribution

MDM4U

Jensen

Height of cacti are normally distributed with a mean of 1.4 m and a standard deviation of 0.3 m.

1. 68% of the cacti are between...

2. What percent of cacti are between 0.8 and 2m tall?

```
NORMAL FLOAT AUTO REAL RADIAN MP
normalcdf(0.8,2,1.4,0.3)
.....
.954499876
```

3. What percent of cacti are between 1.0 and 1.5 meters tall?

```
NORMAL FLOAT AUTO REAL RADIAN MP
normalcdf(1,1.5,1.4,0.3)
.....
.5393473144
```

4. What percent of cacti are less than 1.38 meters tall?

```
NORMAL FLOAT AUTO REAL RADIAN MP
normalcdf(-E99,1.38,1.4,0.3)
.....
.4734234648
```

5. What percent of cacti are likely more than 1.0 meters tall?

```
NORMAL FLOAT AUTO REAL RADIAN MP
normalcdf(1,E99,1.4,0.3)
.....
.9087887181
```

6. Find the 90<sup>th</sup> percentile of cactus height...

```
NORMAL FLOAT AUTO REAL RADIAN MP
invNorm(0.9,1.4,0.3)
.....
1.78446547
```