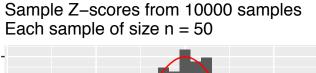
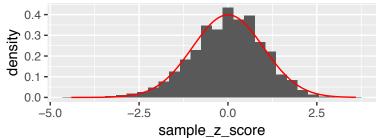
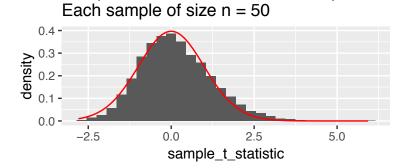
Population: 330,717 babies mean 38.8 weeks, sd 2.61 weeks 80000 -60000 -40000 -20000 -20 30 40 gestation Draw 1 **Draw Many Sample** Samples Sample: 50 babies Sample Means from 10000 samples Each sample of size n = 30mean 39.08 weeks, sd 3.28 weeks 1000 -9 -750 count 500 -250 -0 -30 20 30 40 50 gestation sample_mean_gestation

z-score =
$$\frac{\bar{Y} - \mu}{\sigma / \sqrt{n}} = \frac{39.08 - 38.8}{2.61 / \sqrt{50}} \sim \text{Normal}(0,1)$$

$$t = \frac{\bar{Y} - \mu}{s/\sqrt{n}} = \frac{39.08 - 38.8}{3.28/\sqrt{50}} \sim t_{49}$$







Sample t statistics from 10000 samples