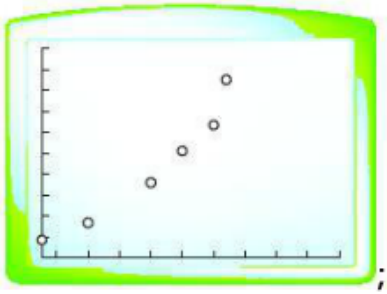
**17.** ~~negative correlation~~ **18.** about 7 cm

**19. a.**

| x | y |
|---|---|
| 0 | 8.4 |
| 10 | 17.3 |
| 20 | 35.9 |
| 25 | 51.1 |
| 30 | 73.5 |
| 32 | 85.2 |

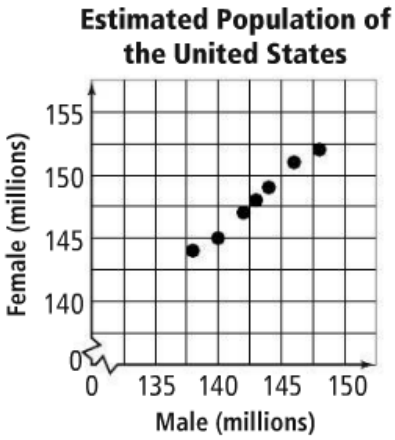
The transformed numbers will make th computations easier when using the m to predict values.

**b.**  ;
exponential

**c.** $y = 8.4 \cdot 1.075^x$; about 0.9999943, so the exponential model is an excellent fit for the data.

**d.** According to the model, in 1995 the population was about $y = 24.9$ or 24,900 people. In 2025, the population will be about $y = 217.6$ or 217,600 people. The estimate for the population in 1995 is likely to be much more accurate than the estimate for 2025 because it is an interpolation with actual data points on either side of it.

**20. a.**




**b–c.** Answers may vary. Samples are given.

**b.** $y = 0.906x + 18.173$

**c.** about 154,178,000

**d.** No; 2035 is too far in the future to predict. Growth rates may change by then.

**21. a.** $y = 10.5x + 88.2$

**b.** 10.5; the sales increased by about 10.5 million units each year.

**c.** 88.2; the estimated number of units sold in the year 1990