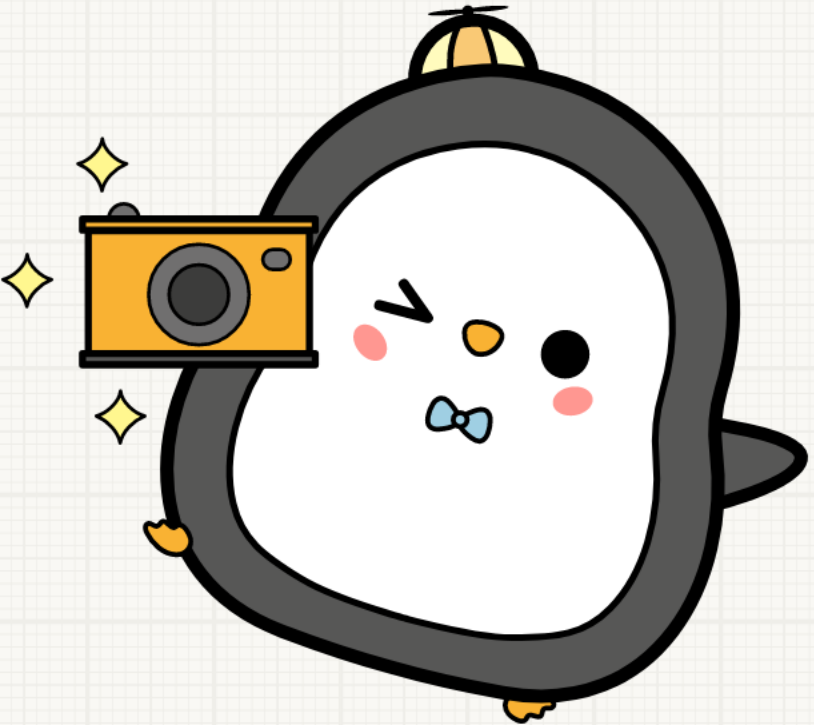
AP Bio Math Mondays

Statistical Analysis: Standard Error of the Mean

NOTES

Standard Error of the Mean

$$SE_{\bar{x}} = \frac{s}{\sqrt{n}}$$



Math Monday #2

Standard Error

Treatment of tomato plants with a growth hormone yielded the following weights of tomatoes: 104 g, 82 g, 121 g, 96 g, 108 g, 73 g. What is the standard error of the mean of a tomato after treatment?

$n = 6$

$s = 17.59$

Standard Error of the Mean

$$SE_{\bar{x}} = \frac{s}{\sqrt{n}}$$

$$SE_{\bar{x}} = \frac{17.59}{\sqrt{6}}$$

Math Monday #2

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$n = 6$

$s = 17.59$

$$SE_{\bar{x}} = \frac{17.59}{\sqrt{6}}$$

$$SE_{\bar{x}} = \frac{17.59}{2.449}$$

$$SE_{\bar{x}} = 7.18$$

Example Problem

Standard Error

Initial mass of pumpkin cores was measured in grams. What is the standard error of the mean for the pumpkin cores? Round to the nearest hundredth.

29.15, 28.45, 30.92, 29.25, 32.09, 31.67

Standard Error of the Mean

$$SE_{\bar{x}} = \frac{s}{\sqrt{n}}$$

Example Problem

Standard Error

Initial mass of pumpkin cores was measured in grams. What is the standard error of the mean for the pumpkin cores? Round to the nearest hundredth.

29.15, 28.45, 30.92, 29.25, 32.09, 31.67

$n = 6$

$s = 1.50$

$$SE_{\bar{x}} = \frac{1.50}{\sqrt{6}}$$

$$SE_{\bar{x}} = \frac{1.50}{2.449}$$

$$SE_{\bar{x}} = 0.612 = 0.61$$