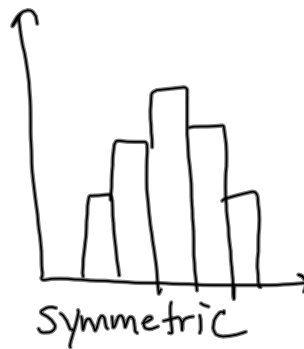
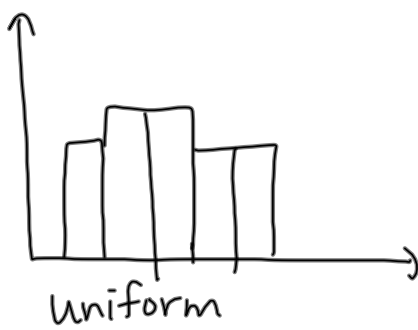


# Histograms

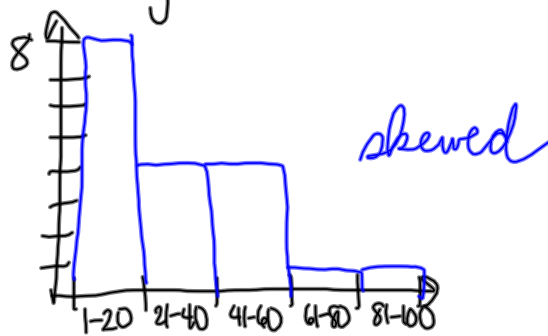


ages: 18 ✓ 5 ✓ 27 ✓ 34 ✓ 56 ✓ 54 ✓ 9 ✓ 14 ✓ 35 ✓ 22 ✓ 78 ✓ 94 ✓  
 47 ✓ 52 ✓ 2 ✓ 16 ✓ 17 ✓ 10 ✓

## Frequency Table

1-20	
21-40	
41-60	
61-80	
81-100	

## Histogram



55 53 67 52 50 49 51 52 52

\* 7, 9, 10, x mean: 8  $\frac{7+9+10+x}{4} = 8$

mean  $\frac{\text{sum of numbers}}{\# \text{ of numbers}}$  "average"  $4 \cdot 26+x = 8 \cdot 4$   $\frac{55+53+67+52+50+49+51+52+52}{9}$   $53.\bar{4}$

median put in least to greatest; pick middle or average of 2 middle numbers  
52

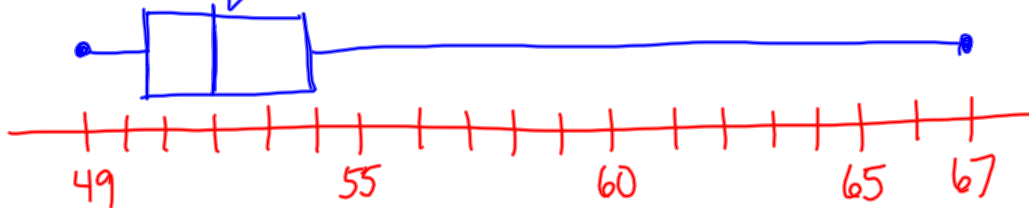
mode most occurring (bimodal; no mode)

range : greatest - least  
52  
 $67-49$   
18

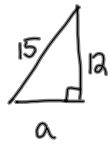
$$\begin{array}{r} 26+x = 32 \\ -26 \quad -26 \\ \hline x = 6 \end{array}$$



interquartile range :  $54-50.5 = 3.5$



The Pythagorean Theorem  $a^2 + b^2 = c^2$



Find a.

$$a^2 + 12^2 = 15^2$$

$$\begin{array}{r} a^2 + 144 = 225 \\ -144 \quad -144 \\ \hline a^2 = 81 \end{array}$$

$$a = 9$$

hypotenuse  
long side

Radicals.

$$1. \sqrt{192} 5^2 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \sqrt{3} = 8 \cdot 5 \sqrt{3}$$



$$2. 4\sqrt{10} \cdot 2\sqrt{90} = 4 \cdot 2 \cdot \sqrt{10} \cdot \sqrt{90}$$

$$8\sqrt{10 \cdot 90} = 8 \cdot 10 \cdot 3 = 240$$

$$3. \begin{array}{l} 6\sqrt{11} + 9\sqrt{11} \\ (6+9)(\sqrt{11}) \\ 15\sqrt{11} \end{array} \quad \begin{array}{l} 60x + 90x \\ 150x \end{array}$$

$$4. \begin{array}{l} 5\sqrt{3} - \sqrt{12} \\ 5\sqrt{3} - 2\sqrt{3} \\ (5-2)\sqrt{3} \\ 3\sqrt{3} \end{array} \quad 5. \begin{array}{l} \sqrt{10}(\sqrt{6} + 3) \\ \sqrt{10} \cdot \sqrt{6} + \sqrt{10} \cdot 3 \\ \sqrt{10 \cdot 6} + 3\sqrt{10} \\ 2\sqrt{15} + 3\sqrt{10} \end{array}$$

$$6. \begin{array}{r} \sqrt{x} + 7 = 16 \\ -7 \quad -7 \\ \hline \sqrt{x} = 9 \\ \sqrt{x}^2 = 9^2 \\ \boxed{x = 81} \end{array} \quad (\sqrt{\quad})^2 = (\quad)^2$$