

METHODOLOGY

MODELING A RANDOM PHENOMENON WITH A PROBABILITY DISTRIBUTION



Scenario: What is the distribution of blood pressure readings (systolic) in a random population of Americans between the ages of 20 and 25?

Step	Make it Work!																																																																																																				
1. What is the random phenomenon?																																																																																																					
2. Determine context																																																																																																					
3. Get reliable data	<p>Data gathered from a random sample of 100 Americans between the ages of 20 and 25. Number represents the systolic reading.</p> <table border="1" style="width: 100%; text-align: center;"> <tbody> <tr><td>98</td><td>131</td><td>128</td><td>126</td><td>128</td><td>117</td><td>115</td><td>92</td><td>95</td><td>120</td></tr> <tr><td>141</td><td>124</td><td>152</td><td>116</td><td>85</td><td>131</td><td>109</td><td>112</td><td>109</td><td>128</td></tr> <tr><td>127</td><td>126</td><td>115</td><td>107</td><td>145</td><td>122</td><td>143</td><td>140</td><td>144</td><td>126</td></tr> <tr><td>112</td><td>129</td><td>124</td><td>134</td><td>150</td><td>104</td><td>128</td><td>121</td><td>117</td><td>100</td></tr> <tr><td>107</td><td>65</td><td>96</td><td>82</td><td>97</td><td>145</td><td>136</td><td>108</td><td>119</td><td>149</td></tr> <tr><td>111</td><td>126</td><td>114</td><td>141</td><td>125</td><td>119</td><td>118</td><td>92</td><td>133</td><td>123</td></tr> <tr><td>116</td><td>139</td><td>116</td><td>85</td><td>109</td><td>132</td><td>125</td><td>98</td><td>121</td><td>113</td></tr> <tr><td>104</td><td>136</td><td>119</td><td>126</td><td>119</td><td>138</td><td>124</td><td>159</td><td>130</td><td>111</td></tr> <tr><td>87</td><td>137</td><td>108</td><td>131</td><td>159</td><td>109</td><td>109</td><td>91</td><td>125</td><td>130</td></tr> <tr><td>130</td><td>102</td><td>113</td><td>141</td><td>114</td><td>102</td><td>133</td><td>125</td><td>97</td><td>98</td></tr> </tbody> </table>	98	131	128	126	128	117	115	92	95	120	141	124	152	116	85	131	109	112	109	128	127	126	115	107	145	122	143	140	144	126	112	129	124	134	150	104	128	121	117	100	107	65	96	82	97	145	136	108	119	149	111	126	114	141	125	119	118	92	133	123	116	139	116	85	109	132	125	98	121	113	104	136	119	126	119	138	124	159	130	111	87	137	108	131	159	109	109	91	125	130	130	102	113	141	114	102	133	125	97	98
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4. Construct a Distribution																																																																																																					
5. Is it a well-known distribution?																																																																																																					
6. Validate																																																																																																					