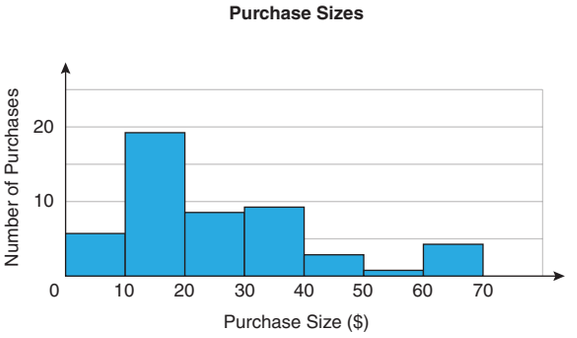
Unit 6: Statistics Lesson 6.2

Coach's Corner – II

1. The amount customers spent at a store on a particular day is listed in the table.

Purchase Amounts				
$2.72	$13.74	$17.96	$26.31	$37.78
$6.59	$14.06	$18.00	$28.82	$38.73
$7.35	$14.30	$18.56	$28.96	$40.61
$8.64	$14.72	$19.65	$30.15	$43.48
$9.59	$15.13	$19.96	$32.17	$45.13
$9.64	$15.42	$20.30	$32.48	$51.44
$10.63	$15.86	$20.32	$33.23	$60.60
$11.74	$16.26	$20.40	$34.10	$63.68
$13.38	$17.67	$24.63	$34.58	$64.03
$13.43	$17.76	$25.33	$36.98	$69.20

a. Draw a histogram to represent this data.



b. Determine the mean, median, and standard deviation of the data.

$$\text{median} = \frac{\$19.96 + \$20.30}{2} = \$20.13$$

Using technology,

$\mu = \$25.72$
$\sigma = \$15.83$

c. Do the purchase sizes appear to be normally distributed? Explain.

There are some characteristics of a normal distribution; there is more data in the centre of the distribution than at the edges, all data lies within three standard deviations of the mean, and the mean and median are similar. There are also parts of the distribution that are not normal; the data is not very symmetrical and there appears to be more data between 60 and 70 than would be expected if the data was normal.

2. The data in the following table is normally distributed. Sketch a normal curve that represents the data.

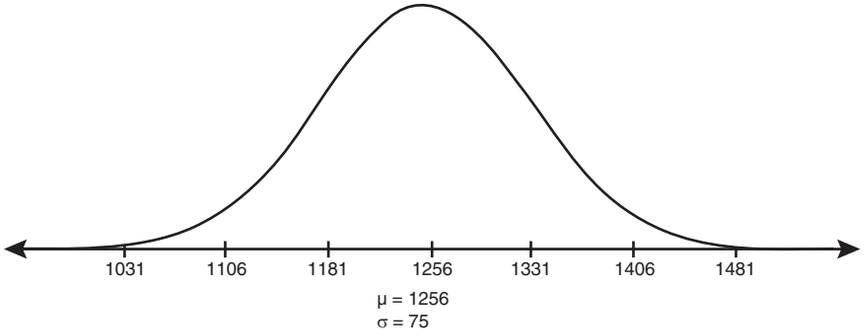
1328	1107	1255	1384	1463	1320
1140	1283	1215	1276	1233	1236
1274	1268	1343	1330	1253	1356
1245	1431	1198	1165	1251	1130
1264	1127	1276	1285	1419	1280
1208	1221	1270	1236	1093	1276
1189	1264	1238	1264	1128	1227
1268	1259	1212	1328	1174	1172
1377	1200	1282	1261	1283	1196
1299	1248	1197	1288	1281	1295

Strategies may vary. One method is to use the mean and standard deviation to make a sketch.

Using technology,

$\mu = 1256$
$\sigma = 75$

Most of the data will lie within three standard deviations of the mean. Three standard deviations below the mean is $1256 - 3(75) = 1031$ and three standard deviations above the mean is $1256 + 3(75) = 1481$.



Please return to *Unit 6: Statistics Lesson 6.2* to continue your training.