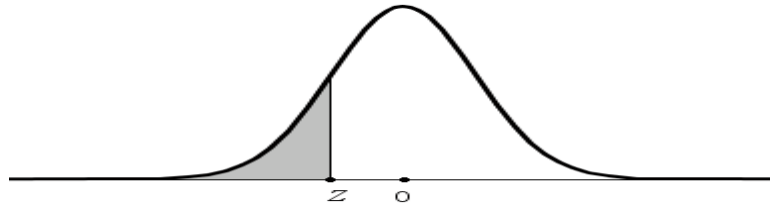




# Negative Z Scores

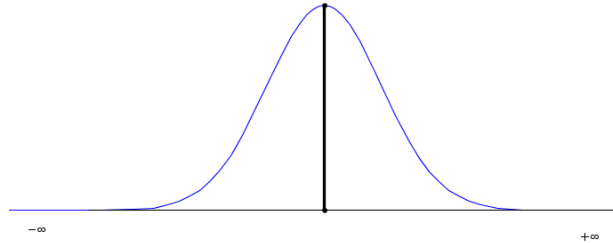


Z	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-3.5 and lower	0.0001									
-3.4	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002
-3.3	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003
-3.2	0.0007	0.0007	0.0006	0.0006	0.0006	0.0006	0.0006	0.0005	0.0005	0.0005
-3.1	0.0010	0.0009	0.0009	0.0009	0.0008	0.0008	0.0008	0.0008	0.0007	0.0007
-3	0.0013	0.0013	0.0013	0.0012	0.0012	0.0011	0.0011	0.0011	0.0010	0.0010
-2.9	0.0019	0.0018	0.0018	0.0017	0.0016	0.0016	0.0015	0.0015	0.0014	0.0014
-2.8	0.0026	0.0025	0.0024	0.0023	0.0023	0.0022	0.0021	0.0021	0.0020	0.0019
-2.7	0.0035	0.0034	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028	0.0027	0.0026
-2.6	0.0047	0.0045	0.0044	0.0043	0.0041	0.0040	0.0039	0.0038	0.0037	0.0036
-2.5	0.0062	0.0060	0.0059	0.0057	0.0055	0.0054	0.0052	0.0051	0.0049	0.0048
-2.4	0.0082	0.0080	0.0078	0.0075	0.0073	0.0071	0.0069	0.0068	0.0066	0.0064
-2.3	0.0107	0.0104	0.0102	0.0099	0.0096	0.0094	0.0091	0.0089	0.0087	0.0084
-2.2	0.0139	0.0136	0.0132	0.0129	0.0125	0.0122	0.0119	0.0116	0.0113	0.0110
-2.1	0.0179	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146	0.0143
-2	0.0228	0.0222	0.0217	0.0212	0.0207	0.0202	0.0197	0.0192	0.0188	0.0183
-1.9	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233
-1.8	0.0359	0.0351	0.0344	0.0336	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294
-1.7	0.0446	0.0436	0.0427	0.0418	0.0409	0.0401	0.0392	0.0384	0.0375	0.0367
-1.6	0.0548	0.0537	0.0526	0.0516	0.0505	0.0495	0.0485	0.0475	0.0465	0.0455
-1.5	0.0668	0.0655	0.0643	0.0630	0.0618	0.0606	0.0594	0.0582	0.0571	0.0559
-1.4	0.0808	0.0793	0.0778	0.0764	0.0749	0.0735	0.0721	0.0708	0.0694	0.0681
-1.3	0.0968	0.0951	0.0934	0.0918	0.0901	0.0885	0.0869	0.0853	0.0838	0.0823
-1.2	0.1151	0.1131	0.1112	0.1093	0.1075	0.1056	0.1038	0.1020	0.1003	0.0985
-1.1	0.1357	0.1335	0.1314	0.1292	0.1271	0.1251	0.1230	0.1210	0.1190	0.1170
-1	0.1587	0.1562	0.1539	0.1515	0.1492	0.1469	0.1446	0.1423	0.1401	0.1379
-0.9	0.1841	0.1814	0.1788	0.1762	0.1736	0.1711	0.1685	0.1660	0.1635	0.1611
-0.8	0.2119	0.2090	0.2061	0.2033	0.2005	0.1977	0.1949	0.1922	0.1894	0.1867
-0.7	0.2420	0.2389	0.2358	0.2327	0.2296	0.2266	0.2236	0.2206	0.2177	0.2148
-0.6	0.2743	0.2709	0.2676	0.2643	0.2611	0.2578	0.2546	0.2514	0.2483	0.2451
-0.5	0.3085	0.3050	0.3015	0.2981	0.2946	0.2912	0.2877	0.2843	0.2810	0.2776
-0.4	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0.3121
-0.3	0.3821	0.3783	0.3745	0.3707	0.3669	0.3632	0.3594	0.3557	0.3520	0.3483
-0.2	0.4207	0.4168	0.4129	0.4090	0.4052	0.4013	0.3974	0.3936	0.3897	0.3859
-0.1	0.4602	0.4562	0.4522	0.4483	0.4443	0.4404	0.4364	0.4325	0.4286	0.4247
0	0.5000	0.4960	0.4920	0.4880	0.4840	0.4801	0.4761	0.4721	0.4681	0.4641

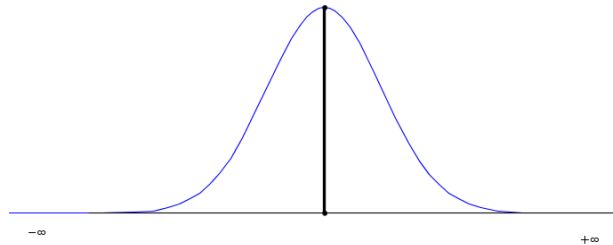
GUIDED NOTES Applications of Normal Curves 1-28-19

Residents of a small town have savings which are normally distributed with a mean of \$3000 and a standard deviation of \$500.

1. What percentage of townspeople have savings greater than \$3200? \_\_\_\_\_

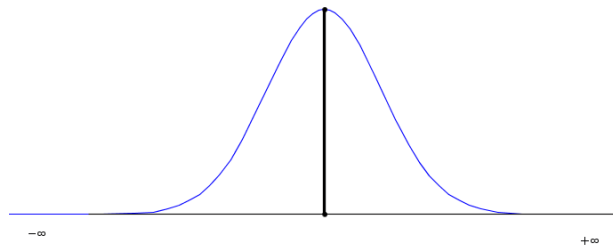


2. Shade and label the related normal curve
3. State the related Z score from the CHART  $z =$  \_\_\_\_\_
4. A townspeople is chosen at random. What is the probability that townspeople has savings between \$2300 and \$3300? \_\_\_\_\_



5. Shade and label the related normal curve
6. State the related Z scores  $z =$  \_\_\_\_\_ &  $z =$  \_\_\_\_\_
7. The percentage of townspeople with savings less than  $d$  dollars is 74.22%. Find the value of  $d$ .

$d =$  \_\_\_\_\_



8. Shade and label the related normal curve
9. State the related Z score from the CHART  $z =$  \_\_\_\_\_

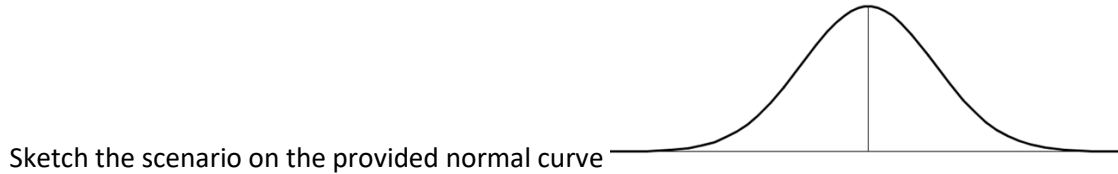
The height of a plant is normally distributed and typically is 15.6 inches with a standard deviation of 1.3 inches:

10. You randomly selected a plant in the top 25% of all plants of this type

What is the probability statement for this scenario? \_\_\_\_\_

State the related z score(s) = \_\_\_\_\_

What is the associated height with this problem? \_\_\_\_\_

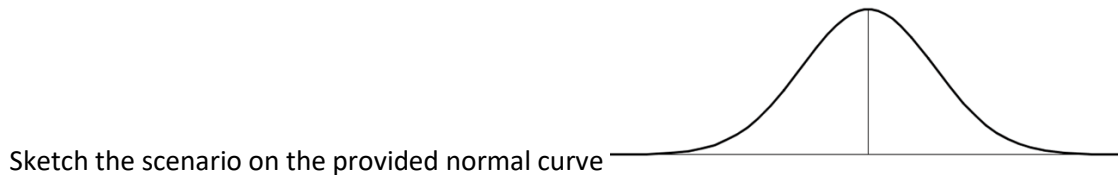


11. You randomly selected a plant in the bottom 14% of all plants of this type

What is the probability statement for this scenario? \_\_\_\_\_

State the related z score(s) = \_\_\_\_\_

What is the associated height with this problem? \_\_\_\_\_

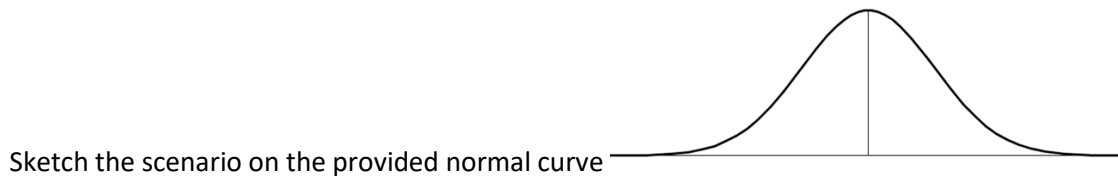


12. You randomly selected a plant that is between 14 inches and 14.5 inches of all plants of this type

What is the probability statement for this scenario? \_\_\_\_\_

State the related z score(s) = \_\_\_\_\_

What is the associated probability with this problem? \_\_\_\_\_



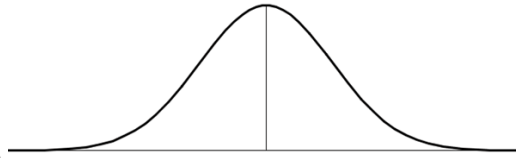
The weight of a certain type of melon is normally distributed and typically is 8.4 kg. with a standard deviation of 0.4 kg :

1. You randomly selected a melon in the top 16% of all melons of this type

What is the probability statement for this scenario? \_\_\_\_\_

What is the associated weight with this problem? \_\_\_\_\_

Sketch the scenario on the provided normal curve \_\_\_\_\_

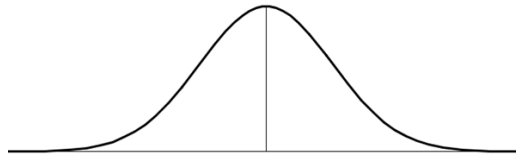


2. You randomly selected a plant in the bottom 38% of all melons of this type

What is the probability statement for this scenario? \_\_\_\_\_

What is the associated weight with this problem? \_\_\_\_\_

Sketch the scenario on the provided normal curve \_\_\_\_\_

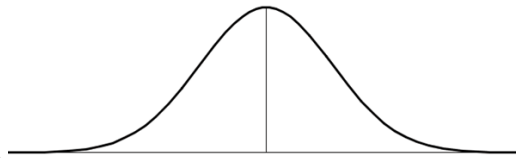


3. You randomly selected a melon in the middle 50% of all melons of this type

What is the probability statement for this scenario? \_\_\_\_\_

What is the associated range of weights with this problem? \_\_\_\_\_

Sketch the scenario on the provided normal curve \_\_\_\_\_



4. The length of a lane markers in the middle of the highway on the pavement are normally distributed and typically is 1.8 meters with a standard deviation of 0.1 meters:

You are told to determine the maximum length that would make the following statement true:

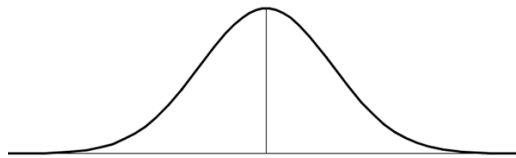
I.D.O.T. and the Commission on Public Safety states that 60% of all lane markers are between 1.65 meters and \_\_\_\_\_ meters

YOU MUST SHOW WORK TO RECEIVE CREDIT

What is the probability statement for this scenario? \_\_\_\_\_

What is the associated length with this problem? \_\_\_\_\_ (round to four decimal places)

Sketch the scenario on the provided normal curve \_\_\_\_\_



5. The height of road sign signs on the highway are normally distributed and typically is 2 meters with a standard deviation of 0.2 meters:

You are told to determine the minimum length that would make the following statement true:

I.D.O.T. and the Commission on Public Safety states that 35% of all road side signs are between \_\_\_\_\_ meters and 2.1 meters above the level of the highway

YOU MUST SHOW WORK TO RECEIVE CREDIT

What is the probability statement for this scenario? \_\_\_\_\_

What is the associated height with this problem? \_\_\_\_\_ (round to four decimal places)

Sketch the scenario on the provided normal curve \_\_\_\_\_

