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QUESTION 1

Choose the correct answer.

Find the z-values associated with the middle 85% of the data.

Cumulative Standard Normal Distribution										
z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0239	.0233
-1.8	.0359	.0351	.0344	.0336	.0329	.0322	.0314	.0307	.0301	.0294
-1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
-1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
-1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0571	.0559
-1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0721	.0708	.0694	.0681
-1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
-1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
-1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
-1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379

- ☐ $z < -0.84$ or $z > 0.84$
- ☐ $-0.84 < z < 0.84$
- ☐ $z < -1.44$ or $z > 1.44$
- ☒ $-1.44 < z < 1.44$

QUESTION 2

Select the correct answer from the drop-down menu.

Find the z-values associated with the middle 95% of the data.

Cumulative Standard Normal Distribution										
z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0239	.0233
-1.8	.0359	.0351	.0344	.0336	.0329	.0322	.0314	.0307	.0301	.0294
-1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
-1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
-1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0571	.0559
-1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0721	.0708	.0694	.0681
-1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
-1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
-1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
-1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379

The interval that represents the middle 90% of the data is

$$-1.96 < z < 1.96$$

QUESTION 3



Select the correct answer from the drop-down menu.

Find the z-values associated with the middle 65% of the data.

Cumulative Standard Normal Distribution										
z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	.5000	.5040	.5080	.5120	.5160	.5199	.5239	.5279	.5319	.5359
0.1	.5398	.5438	.5478	.5517	.5557	.5596	.5636	.5675	.5714	.5753
0.2	.5793	.5832	.5871	.5910	.5948	.5987	.6026	.6064	.6103	.6141
0.3	.6179	.6217	.6255	.6293	.6331	.6368	.6406	.6443	.6480	.6517
0.4	.6554	.6591	.6628	.6664	.6700	.6736	.6772	.6808	.6844	.6879
0.5	.6915	.6950	.6985	.7019	.7054	.7088	.7123	.7157	.7190	.7224
0.6	.7257	.7291	.7324	.7357	.7389	.7422	.7454	.7486	.7515	.7549
0.7	.7580	.7611	.7642	.7673	.7704	.7734	.7764	.7794	.7823	.7852
0.8	.7881	.7910	.7939	.7967	.7995	.8023	.8051	.8078	.8106	.8133
0.9	.8159	.8186	.8212	.8238	.8264	.8289	.8315	.8340	.8365	.8389
1.0	.8413	.8438	.8461	.8485	.8508	.8531	.8554	.8577	.8599	.8621
1.1	.8643	.8665	.8686	.8708	.8729	.8749	.8770	.8790	.8810	.8830
1.2	.8849	.8869	.8888	.8907	.8925	.8944	.8962	.8980	.8997	.9015
1.3	.9032	.9049	.9066	.9082	.9099	.9115	.9131	.9147	.9162	.9177
1.4	.9192	.9207	.9222	.9236	.9251	.9265	.9279	.9292	.9306	.9319
1.5	.9332	.9345	.9357	.9370	.9382	.9394	.9406	.9418	.9429	.9441

The interval that represents the middle 65% of the data is

$$-0.93 < z < 0.93$$

QUESTION 4



Choose the correct answer.

There are 400 crates of food products being delivered. The mass of the crates is normally distributed with a mean mass of 40 kg and a standard deviation of 6 kg. About how many crates has a mass of 34 kg or less?

☐

336

☒

64

☐

16

☐

54

QUESTION 5



Choose the correct answer.

There are approximately 90 days during which summer tourism is popular at a local seaside community. The temperatures in the area are normally distributed during the summer with a mean of

25° C

and a standard deviation of

3° C

. About how many days are greater than

28° C

?

☐

12

☐

31

☐

17

☒

14



QUESTION 6

*Choose the correct answer.*

For part-time employees at several retailers, the mean weekly salary is AED 220 with a standard deviation of AED 10. If there are 300 part-time employees working for different retailers, how many part-time employees are earning between AED 190 and AED 250?

☐

99

☒

299

☐

300

☐

285

QUESTION 7



Choose the correct answer.

The average weekly time Omar spent in vigorous activity over a 52-week period are normally distributed. The mean time is 5 hours with a standard deviation of 0.75 hours. What percent of the weeks were spent with a minimum of 3.5 hours of vigorous activity?

- ☒ 97.5% 
- ☐ 5%
- ☐ 95%
- ☐ 2.5%

QUESTION 8



Choose the correct answer.

The amounts of money collected by students for a fundraiser are normally distributed with a mean of AED 400 and a standard deviation of AED 25. If 220 students participated in the fundraiser, how many students collected between AED 350 and AED 450?

- ☐ 95
- ☐ 11



150

209



QUESTION 9



Select the correct answer from the drop-down menu.

600 people played a video game. The scores on the video game are normally distributed with a mean score of 840 and a standard deviation of 40. About how many people scored less than 800 on the video game?

About

96



people scored less than 800.

QUESTION 10



Select the correct answer from the drop-down menu.

Several boat captains catch fish at sea to sell to seafood vendors. The number of fish caught is normally distributed with a mean of 100 fish and a standard deviation of 15. If 150 boat captains caught fish, how many boat captains caught between 85 and 115 fish?

102



boat captains caught between 85 and 115 fish.

QUESTION 11



Select the correct answer from the drop-down menu.

The average number of runs scored by a softball team over 40 games is normally distributed. The mean number of runs is 5 and the standard deviation is 2. What percent of the games did the team score 9 runs or less?

The team scored 9 runs or less in % of the games.

QUESTION 12



Select the correct answer from the drop-down menu.

During various business trips, the average cost of dining out is normally distributed over 120 restaurants. The mean cost is AED 60 and the standard deviation is AED 4. What percent of the restaurants cost between AED 52 and AED 64?

The cost of dining out between AED 52 and AED 64 is % of the restaurants.

QUESTION 13



Fill in the blanks with the correct answer.

Suppose 120 college students took a biology exam. The scores on the exam are normally distributed with a mean score of 78 and a standard deviation of 6. About how many people scored greater than 90 on the exam?

About  people scored greater than 90 on the biology exam.

QUESTION 14



Fill in the blanks with the correct answer.

At a certain high school, the mean time spent on studying each week is 12 hours with a standard deviation of 1.5 hours. Out of 350 students, how many students study between 10.5 hours and 13.5 hours a week?

 students study between 10.5 hours and 13.5 hours a week.

QUESTION 15



Fill in the blanks with the correct answer.

The mean distance for commuting to the city for work is 60 km with a standard deviation of 12 km. Out of 500 commuters, how many have a commuting distance between 36 km and 84 km?

 commuters have a commuting distance between 36 km and 84 km.

QUESTION 16



Fill in the blanks with the correct answer.

In the downtown area of a city, the average height of 50 buildings is normally distributed. The mean height is 180 m and the standard deviation is 15 m. What percent of the buildings are 195 m or less in height?



% of the buildings are 195 m or less in height.

QUESTION 17



Fill in the blanks with the correct answer.

The average number of emails received by a technical support specialist each day over a 90 day-period is normally distributed. The mean number of emails is 84 and the standard deviation is 16. What percent of the days did the technical support specialist receive between 68 and 116 emails?

The technical support specialist received between 68 and 116 emails



% of the days.

QUESTION 18



Fill in the blanks with the correct answer.

There are 400 students in a school. The students' heights are normally distributed with a mean of 150 cm and a standard deviation of 5 cm. About how many students are less than 140 cm in height?

About

10



students are less than 140 cm in height.

QUESTION 19



Fill in the blanks with the correct answer.

Find z if $X = 37$, $\mu = 41$, and $\sigma = 2.5$.

 $z =$

-1.6



QUESTION 20



Fill in the blanks with the correct answer.

Find z if $X = 54$, $\mu = 48$, and $\sigma = 2.5$.

 $z =$

2.4



QUESTION 21



Select the correct answer from the drop-down menu.

Find z if $X = 73$, $\mu = 65$, and $\sigma = 4.5$.

$z \approx$

1.78 ✓ ▼

QUESTION 22



Choose the correct answer.

Find z if $X = 147$, $\mu = 162$, and $\sigma = 10$.

☐ $z = 1.5$ ☐ $z = -1.75$ ☐ $z = 1.75$ ☒ $z = -1.5$ 

QUESTION 23



Fill in the blank with the correct answer.

Find z if $X = 70$, $\mu = 76$, and $\sigma = 12$.

$z =$ 

QUESTION 24



Select the correct answer from the drop-down menu.

A local softball team scored 10 runs in a game. The mean runs scored for the team is 6 with a standard deviation of 1.8. If the runs scored were normally distributed, what percent of games played did the softball team score more than 10 runs? Round to the nearest tenth of a percent.

The team scored more than 10 runs in about % of the games played.



QUESTION 25



Fill in the blank with the correct answer.

Fares is 160 cm tall. The mean height for students at his school is 162 cm with a standard deviation of 3 cm. If the heights were normally distributed, what percent of students are taller than Fares? Round to the nearest whole percent.

About



% of students are taller than Fares.

QUESTION 26



Fill in the blank with the correct answer.

Fatima scored 95 on her math test. The mean score on the test is 88 with a standard deviation of 4. If the scores were normally distributed, what percent of students scored higher than Fatima on the test? Round to the nearest whole percent.

About

4



% of the students scored higher than Fatima.

QUESTION 27



Select the correct answer from the drop-down menu.

Find the z-values associated with the middle 90% of the data.

Cumulative Standard Normal Distribution										
z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0239	.0233
-1.8	.0359	.0351	.0344	.0336	.0329	.0322	.0314	.0307	.0301	.0294
-1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
-1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
-1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0571	.0559
-1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0721	.0708	.0694	.0681
-1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
-1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
-1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
-1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379

The interval that represents the middle 90% of the data is

$-1.64 < z < 1.64$ ✓ ▼

QUESTION 28



Choose the correct answer.

Find the z-values associated with the middle 80% of the data.

Cumulative Standard Normal Distribution										
z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0239	.0233
-1.8	.0359	.0351	.0344	.0336	.0329	.0322	.0314	.0307	.0301	.0294
-1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
-1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
-1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0571	.0559
-1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0721	.0708	.0694	.0681
-1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
-1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
-1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
-1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379

$$-1.28 < z < 1.28$$



☐ $z < -0.25 \text{ or } z > 0.25$

☐ $z < -1.28 \text{ or } z > 1.28$

☐ $-0.25 < z < 0.25$

QUESTION 29



Choose the correct answer.

A vehicle has a fuel efficiency of 12 km/l. The mean fuel efficiency for automobiles at a dealership is 10 km/l with a standard deviation of 1.5 km/l. If the fuel efficiency for the automobiles were normally distributed, what percent of automobiles have a fuel efficiency greater than 12?

☐ 9.54%

☐ 0.02%

☐	8.82%
☐	9.90%
☒	9.18% 

QUESTION 30



Fill in the blanks with the correct answer.

Alina paid a nightly rate of AED 150 to stay at a hotel. The mean hotel rate in her area is AED 170 with a standard deviation of AED 15. If the rates were normally distributed, what percent of hotels cost more than AED 150? Round to the nearest whole percent.

About

91



% of hotels cost more than AED 150.