

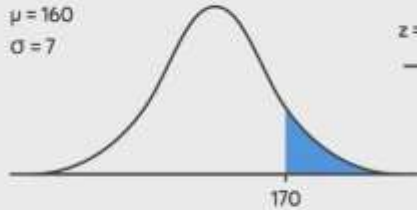
BESANT TECHNOLOGIES

EXAMPLE

Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the proportion of all people that have heights greater than 170 cm?

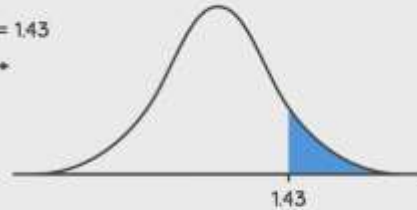
$$P(X > 170) = ?$$

$$\mu = 160$$
$$\sigma = 7$$



$$z = \frac{170 - 160}{7} = 1.43$$

$$P(Z > 1.43) = 0.0764$$

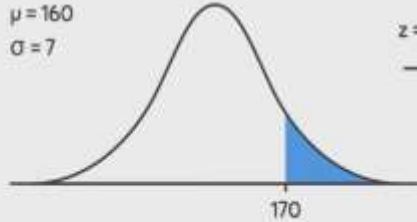


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Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the proportion of all people that have heights greater than 170 cm?

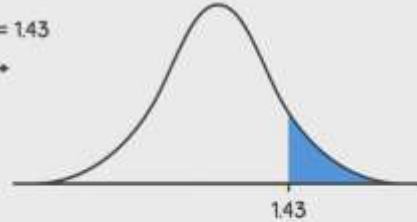
$$P(X > 170) = 7.64\%$$

$$\mu = 160$$
$$\sigma = 7$$



$$z = \frac{170 - 160}{7} = 1.43$$

$$P(Z > 1.43) = 0.0764$$



BESANT TECHNOLOGIES

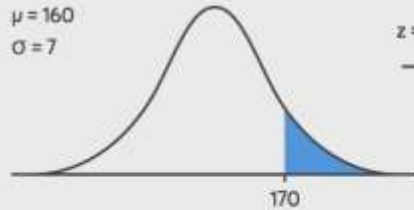
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$$P(X > 170) = 0.0764$$

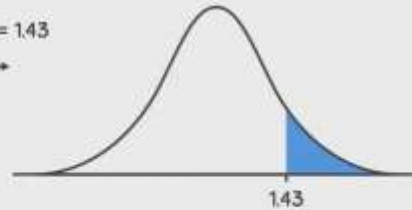
$$\mu = 160$$

$$\sigma = 7$$

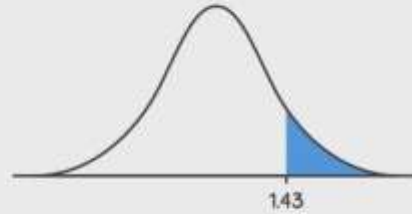


$$z = \frac{170 - 160}{7} = 1.43$$

$$P(Z > 1.43) = 0.0764$$



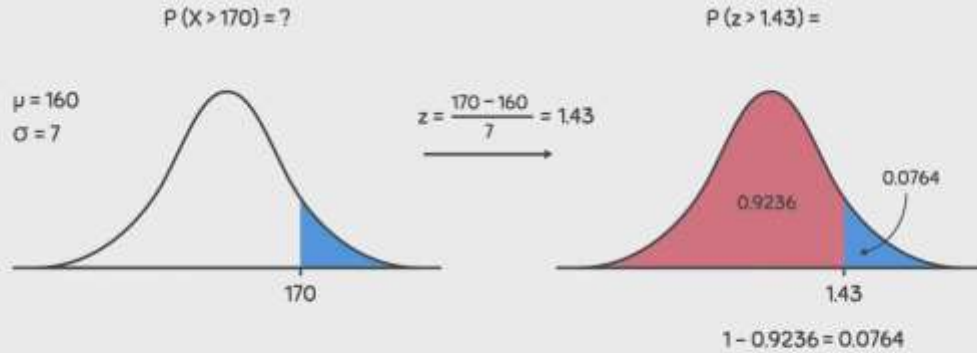
z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7421	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7824	0.7854
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9293	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9915
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9958	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9975	0.9976	0.9977	0.9978	0.9979	0.9980	0.9981	0.9982	0.9983	0.9984
2.9	0.9985	0.9986	0.9987	0.9988	0.9989	0.9990	0.9991	0.9992	0.9993	0.9994
3.0	0.9995	0.9996	0.9997	0.9998	0.9999	1.0000	1.0000	1.0000	1.0000	1.0000



BESANT TECHNOLOGIES

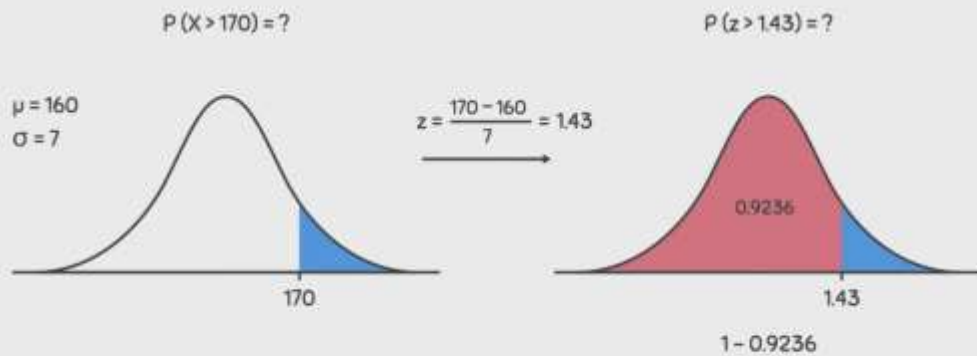
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Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the proportion of all people that have heights greater than 170 cm?



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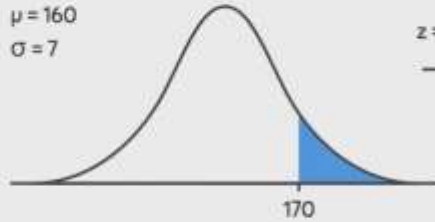
BESANT TECHNOLOGIES

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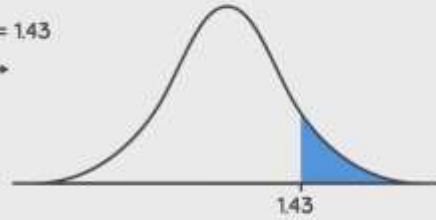
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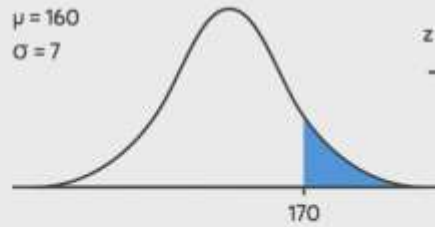


EXAMPLE

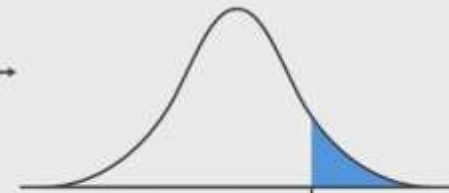
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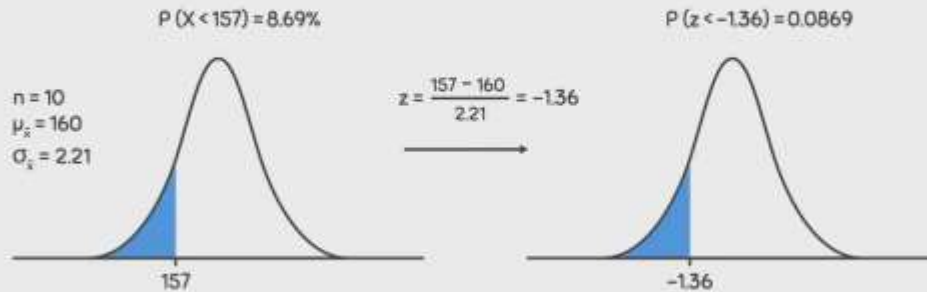
$$z = \frac{x - \mu}{\sigma}$$



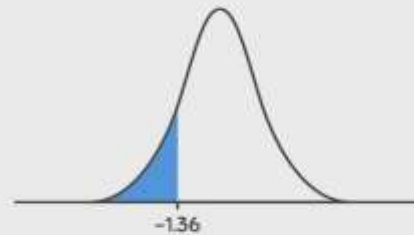
BESANT TECHNOLOGIES

EXAMPLE

Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the probability that the average height of 10 random Canadians is less than 157 cm?



	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-3.4	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
-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	0.0011	0.0011	0.0011	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	0.0128	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	0.0238	0.0222	0.0217	0.0212	0.0207	0.0203	0.0197	0.0192	0.0188	0.0183
-1.9	0.0307	0.0287	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233
-1.8	0.0399	0.0371	0.0354	0.0338	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294
-1.7	0.0496	0.0468	0.0452	0.0438	0.0429	0.0421	0.0413	0.0405	0.0397	0.0390
-1.6	0.0548	0.0517	0.0502	0.0488	0.0479	0.0471	0.0463	0.0455	0.0447	0.0440
-1.5	0.0668	0.0635	0.0620	0.0606	0.0596	0.0589	0.0581	0.0573	0.0565	0.0558
-1.4	0.0808	0.0773	0.0758	0.0744	0.0734	0.0726	0.0718	0.0710	0.0702	0.0694
-1.3	0.0968	0.0931	0.0916	0.0901	0.0891	0.0883	0.0875	0.0867	0.0859	0.0851
-1.2	0.1151	0.1113	0.1100	0.1085	0.1075	0.1066	0.1058	0.1050	0.1042	0.1034
-1.1	0.1357	0.1315	0.1301	0.1286	0.1275	0.1266	0.1258	0.1250	0.1242	0.1234
-1.0	0.1587	0.1542	0.1528	0.1513	0.1502	0.1493	0.1484	0.1476	0.1468	0.1460
-0.9	0.1841	0.1814	0.1798	0.1782	0.1771	0.1761	0.1753	0.1744	0.1736	0.1728
-0.8	0.2119	0.2090	0.2074	0.2058	0.2047	0.2037	0.2028	0.2019	0.2011	0.2003
-0.7	0.2420	0.2389	0.2373	0.2357	0.2346	0.2336	0.2327	0.2318	0.2310	0.2302
-0.6	0.2743	0.2709	0.2692	0.2676	0.2664	0.2653	0.2644	0.2635	0.2627	0.2619
-0.5	0.3085	0.3050	0.3033	0.3017	0.3005	0.2994	0.2984	0.2975	0.2966	0.2958
-0.4	0.3485	0.3448	0.3431	0.3415	0.3402	0.3391	0.3381	0.3372	0.3363	0.3355
-0.3	0.3995	0.3957	0.3940	0.3924	0.3911	0.3900	0.3889	0.3880	0.3871	0.3863
-0.2	0.4505	0.4466	0.4449	0.4433	0.4420	0.4409	0.4398	0.4389	0.4380	0.4372
-0.1	0.5014	0.4974	0.4957	0.4941	0.4928	0.4917	0.4906	0.4897	0.4888	0.4880
0.0	0.5499	0.5458	0.5441	0.5425	0.5412	0.5401	0.5391	0.5382	0.5373	0.5365
0.1	0.5987	0.5945	0.5928	0.5912	0.5900	0.5889	0.5879	0.5870	0.5861	0.5853
0.2	0.6493	0.6450	0.6433	0.6417	0.6404	0.6393	0.6383	0.6374	0.6365	0.6357
0.3	0.7004	0.6960	0.6943	0.6927	0.6914	0.6903	0.6893	0.6884	0.6875	0.6867
0.4	0.7517	0.7472	0.7455	0.7439	0.7426	0.7415	0.7405	0.7396	0.7387	0.7379
0.5	0.8033	0.7987	0.7970	0.7954	0.7941	0.7930	0.7920	0.7911	0.7902	0.7894
0.6	0.8548	0.8501	0.8484	0.8468	0.8455	0.8444	0.8434	0.8425	0.8416	0.8408
0.7	0.9066	0.9018	0.9001	0.8985	0.8972	0.8961	0.8951	0.8942	0.8933	0.8925
0.8	0.9641	0.9592	0.9575	0.9559	0.9546	0.9535	0.9525	0.9516	0.9507	0.9500
0.9	0.9944	0.9904	0.9887	0.9871	0.9859	0.9848	0.9838	0.9829	0.9820	0.9812
1.0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000



BESANT TECHNOLOGIES

EXAMPLE

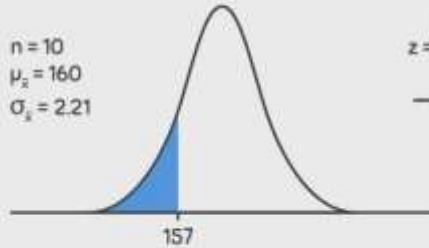
Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the probability that the average height of 10 random Canadians is less than 157 cm?

$$P(X < 157) = ?$$

$$n = 10$$

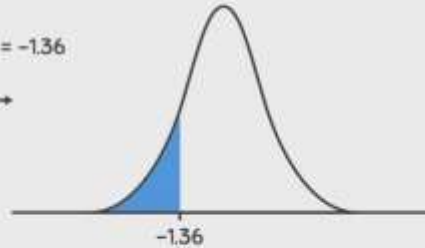
$$\mu_x = 160$$

$$\sigma_x = 2.21$$

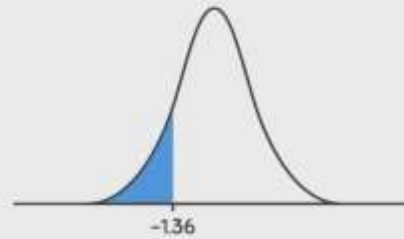


$$z = \frac{157 - 160}{2.21} = -1.36$$

$$P(z < -1.36) = 0.0869$$



z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-3.4	0.0001	0.0003	0.0005	0.0008	0.0011	0.0015	0.0019	0.0024	0.0029	0.0035
-3.3	0.0005	0.0007	0.0009	0.0011	0.0013	0.0016	0.0019	0.0023	0.0027	0.0032
-3.2	0.0007	0.0009	0.0011	0.0013	0.0015	0.0018	0.0021	0.0025	0.0029	0.0034
-3.1	0.0010	0.0012	0.0014	0.0016	0.0018	0.0021	0.0024	0.0027	0.0031	0.0035
-3.0	0.0013	0.0015	0.0017	0.0019	0.0021	0.0024	0.0027	0.0030	0.0033	0.0036
-2.9	0.0016	0.0018	0.0020	0.0022	0.0024	0.0027	0.0029	0.0032	0.0035	0.0038
-2.8	0.0019	0.0021	0.0023	0.0025	0.0027	0.0029	0.0032	0.0034	0.0037	0.0039
-2.7	0.0022	0.0024	0.0026	0.0028	0.0030	0.0032	0.0034	0.0037	0.0039	0.0041
-2.6	0.0025	0.0027	0.0029	0.0031	0.0033	0.0035	0.0037	0.0039	0.0041	0.0043
-2.5	0.0028	0.0030	0.0031	0.0033	0.0035	0.0037	0.0039	0.0041	0.0043	0.0045
-2.4	0.0030	0.0032	0.0034	0.0035	0.0037	0.0039	0.0041	0.0043	0.0045	0.0047
-2.3	0.0032	0.0034	0.0036	0.0037	0.0039	0.0041	0.0043	0.0045	0.0047	0.0049
-2.2	0.0034	0.0036	0.0038	0.0039	0.0041	0.0043	0.0045	0.0047	0.0049	0.0051
-2.1	0.0036	0.0038	0.0040	0.0041	0.0043	0.0045	0.0047	0.0049	0.0051	0.0053
-2.0	0.0038	0.0040	0.0042	0.0043	0.0045	0.0047	0.0049	0.0051	0.0053	0.0055
-1.9	0.0040	0.0042	0.0044	0.0045	0.0047	0.0049	0.0051	0.0053	0.0055	0.0057
-1.8	0.0042	0.0044	0.0046	0.0047	0.0049	0.0051	0.0053	0.0055	0.0057	0.0059
-1.7	0.0044	0.0046	0.0048	0.0049	0.0051	0.0053	0.0055	0.0057	0.0059	0.0061
-1.6	0.0046	0.0048	0.0050	0.0051	0.0053	0.0055	0.0057	0.0059	0.0061	0.0063
-1.5	0.0048	0.0050	0.0052	0.0053	0.0055	0.0057	0.0059	0.0061	0.0063	0.0065
-1.4	0.0050	0.0052	0.0054	0.0055	0.0057	0.0059	0.0061	0.0063	0.0065	0.0067
-1.3	0.0052	0.0054	0.0056	0.0057	0.0059	0.0061	0.0063	0.0065	0.0067	0.0069
-1.2	0.0054	0.0056	0.0058	0.0059	0.0061	0.0063	0.0065	0.0067	0.0069	0.0071
-1.1	0.0056	0.0058	0.0060	0.0061	0.0063	0.0065	0.0067	0.0069	0.0071	0.0073
-1.0	0.0058	0.0060	0.0062	0.0063	0.0065	0.0067	0.0069	0.0071	0.0073	0.0075
-0.9	0.0060	0.0062	0.0064	0.0065	0.0067	0.0069	0.0071	0.0073	0.0075	0.0077
-0.8	0.0062	0.0064	0.0066	0.0067	0.0069	0.0071	0.0073	0.0075	0.0077	0.0079
-0.7	0.0064	0.0066	0.0068	0.0069	0.0071	0.0073	0.0075	0.0077	0.0079	0.0081
-0.6	0.0066	0.0068	0.0070	0.0071	0.0073	0.0075	0.0077	0.0079	0.0081	0.0083
-0.5	0.0068	0.0070	0.0072	0.0073	0.0075	0.0077	0.0079	0.0081	0.0083	0.0085
-0.4	0.0070	0.0072	0.0074	0.0075	0.0077	0.0079	0.0081	0.0083	0.0085	0.0087
-0.3	0.0072	0.0074	0.0076	0.0077	0.0079	0.0081	0.0083	0.0085	0.0087	0.0089
-0.2	0.0074	0.0076	0.0078	0.0079	0.0081	0.0083	0.0085	0.0087	0.0089	0.0091
-0.1	0.0076	0.0078	0.0080	0.0081	0.0083	0.0085	0.0087	0.0089	0.0091	0.0093
0.0	0.0078	0.0080	0.0082	0.0083	0.0085	0.0087	0.0089	0.0091	0.0093	0.0095
0.1	0.0080	0.0082	0.0084	0.0085	0.0087	0.0089	0.0091	0.0093	0.0095	0.0097
0.2	0.0082	0.0084	0.0086	0.0087	0.0089	0.0091	0.0093	0.0095	0.0097	0.0099
0.3	0.0084	0.0086	0.0088	0.0089	0.0091	0.0093	0.0095	0.0097	0.0099	0.0101
0.4	0.0086	0.0088	0.0090	0.0091	0.0093	0.0095	0.0097	0.0099	0.0101	0.0103
0.5	0.0088	0.0090	0.0092	0.0093	0.0095	0.0097	0.0099	0.0101	0.0103	0.0105
0.6	0.0090	0.0092	0.0094	0.0095	0.0097	0.0099	0.0101	0.0103	0.0105	0.0107
0.7	0.0092	0.0094	0.0096	0.0097	0.0099	0.0101	0.0103	0.0105	0.0107	0.0109
0.8	0.0094	0.0096	0.0098	0.0099	0.0101	0.0103	0.0105	0.0107	0.0109	0.0111
0.9	0.0096	0.0098	0.0100	0.0101	0.0103	0.0105	0.0107	0.0109	0.0111	0.0113
1.0	0.0098	0.0100	0.0102	0.0103	0.0105	0.0107	0.0109	0.0111	0.0113	0.0115
1.1	0.0100	0.0102	0.0104	0.0105	0.0107	0.0109	0.0111	0.0113	0.0115	0.0117
1.2	0.0102	0.0104	0.0106	0.0107	0.0109	0.0111	0.0113	0.0115	0.0117	0.0119
1.3	0.0104	0.0106	0.0108	0.0109	0.0111	0.0113	0.0115	0.0117	0.0119	0.0121
1.4	0.0106	0.0108	0.0110	0.0111	0.0113	0.0115	0.0117	0.0119	0.0121	0.0123
1.5	0.0108	0.0110	0.0112	0.0113	0.0115	0.0117	0.0119	0.0121	0.0123	0.0125
1.6	0.0110	0.0112	0.0114	0.0115	0.0117	0.0119	0.0121	0.0123	0.0125	0.0127
1.7	0.0112	0.0114	0.0116	0.0117	0.0119	0.0121	0.0123	0.0125	0.0127	0.0129
1.8	0.0114	0.0116	0.0118	0.0119	0.0121	0.0123	0.0125	0.0127	0.0129	0.0131
1.9	0.0116	0.0118	0.0120	0.0121	0.0123	0.0125	0.0127	0.0129	0.0131	0.0133
2.0	0.0118	0.0120	0.0122	0.0123	0.0125	0.0127	0.0129	0.0131	0.0133	0.0135
2.1	0.0120	0.0122	0.0124	0.0125	0.0127	0.0129	0.0131	0.0133	0.0135	0.0137
2.2	0.0122	0.0124	0.0126	0.0127	0.0129	0.0131	0.0133	0.0135	0.0137	0.0139
2.3	0.0124	0.0126	0.0128	0.0129	0.0131	0.0133	0.0135	0.0137	0.0139	0.0141
2.4	0.0126	0.0128	0.0130	0.0131	0.0133	0.0135	0.0137	0.0139	0.0141	0.0143
2.5	0.0128	0.0130	0.0132	0.0133	0.0135	0.0137	0.0139	0.0141	0.0143	0.0145
2.6	0.0130	0.0132	0.0134	0.0135	0.0137	0.0139	0.0141	0.0143	0.0145	0.0147
2.7	0.0132	0.0134	0.0136	0.0137	0.0139	0.0141	0.0143	0.0145	0.0147	0.0149
2.8	0.0134	0.0136	0.0138	0.0139	0.0141	0.0143	0.0145	0.0147	0.0149	0.0151
2.9	0.0136	0.0138	0.0140	0.0141	0.0143	0.0145	0.0147	0.0149	0.0151	0.0153
3.0	0.0138	0.0140	0.0142	0.0143	0.0145	0.0147	0.0149	0.0151	0.0153	0.0155
3.1	0.0140	0.0142	0.0144	0.0145	0.0147	0.0149	0.0151	0.0153	0.0155	0.0157
3.2	0.0142	0.0144	0.0146	0.0147	0.0149	0.0151	0.0153	0.0155	0.0157	0.0159
3.3	0.0144	0.0146	0.0148	0.0149	0.0151	0.0153	0.0155	0.0157	0.0159	0.0161
3.4	0.0146	0.0148	0.0150	0.0151	0.0153	0.0155	0.0157	0.0159	0.0161	0.0163
3.5	0.0148	0.0150	0.0152	0.0153	0.0155	0.0157	0.0159	0.0161	0.0163	0.0165
3.6	0.0150	0.0152	0.0154	0.0155	0.0157	0.0159	0.0161	0.0163	0.0165	0.0167
3.7	0.0152	0.0154	0.0156	0.0157	0.0159	0.0161	0.0163	0.0165	0.0167	0.0169
3.8	0.0154	0.0156	0.0158	0.0159	0.0161	0.0163	0.0165	0.0167	0.0169	0.0171
3.9	0.0156	0.0158	0.0160	0.0161	0.0163	0.0165	0.0167	0.0169	0.0171	0.0173
4.0	0.0158	0.0160	0.0162	0.0163	0.0165	0.0167	0.0169	0.0171	0.0173	0.0175



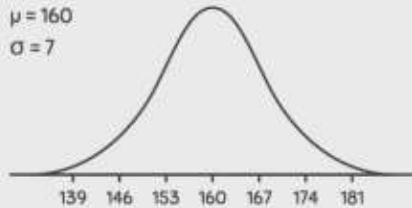
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EXAMPLE

Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the probability that the average height of 10 random Canadians is less than 157 cm?

Population Distribution

$$\mu = 160$$
$$\sigma = 7$$



Sampling Distribution

$$n = 10$$
$$\mu_{\bar{x}} = 160$$
$$\sigma_{\bar{x}} = 2.21$$

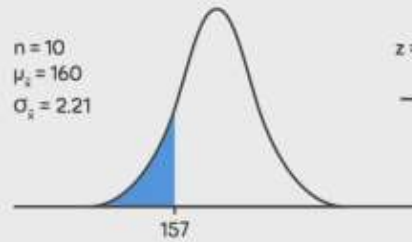


EXAMPLE

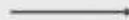
Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the probability that the average height of 10 random Canadians is less than 157 cm?

$$P(\bar{X} < 157) = ?$$

$$n = 10$$
$$\mu_{\bar{x}} = 160$$
$$\sigma_{\bar{x}} = 2.21$$



$$z = \frac{157 - 160}{2.21} = -1.36$$

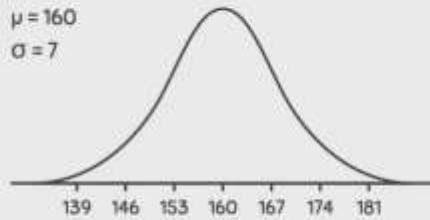


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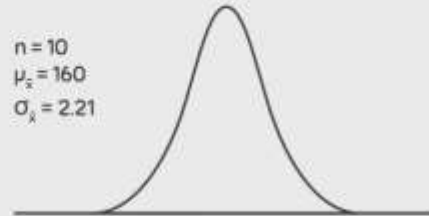
EXAMPLE

Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the probability that the average height of 10 random Canadians is less than 157 cm?

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Sampling Distribution

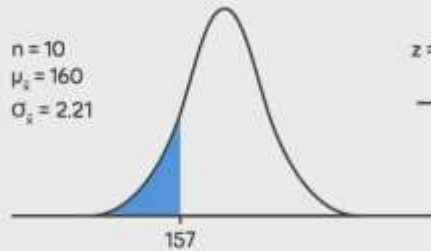


EXAMPLE

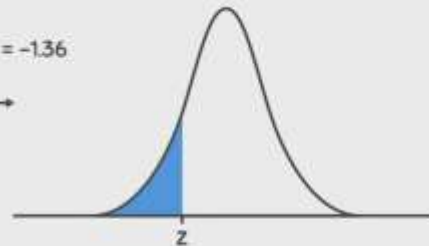
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BESANT TECHNOLOGIES

EXAMPLE

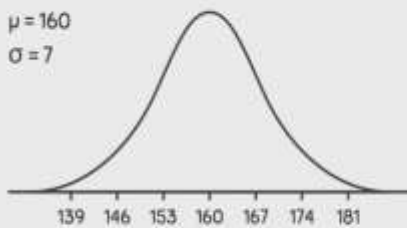
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EXAMPLE

Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the probability that the average height of 10 random Canadians is less than 157 cm?

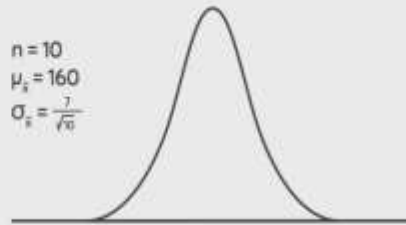
Population Distribution

$$\mu = 160$$
$$\sigma = 7$$



Sampling Distribution

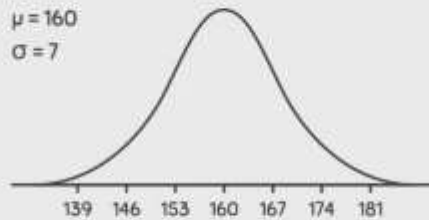
$$n = 10$$
$$\mu_x = 160$$
$$\sigma_x = \frac{7}{\sqrt{10}}$$



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EXAMPLE

Suppose it is known that the heights of all Canadians follows a normal distribution with a mean of 160 cm and a standard deviation of 7 cm. What is the probability that the average height of 10 random Canadians is less than 157 cm?



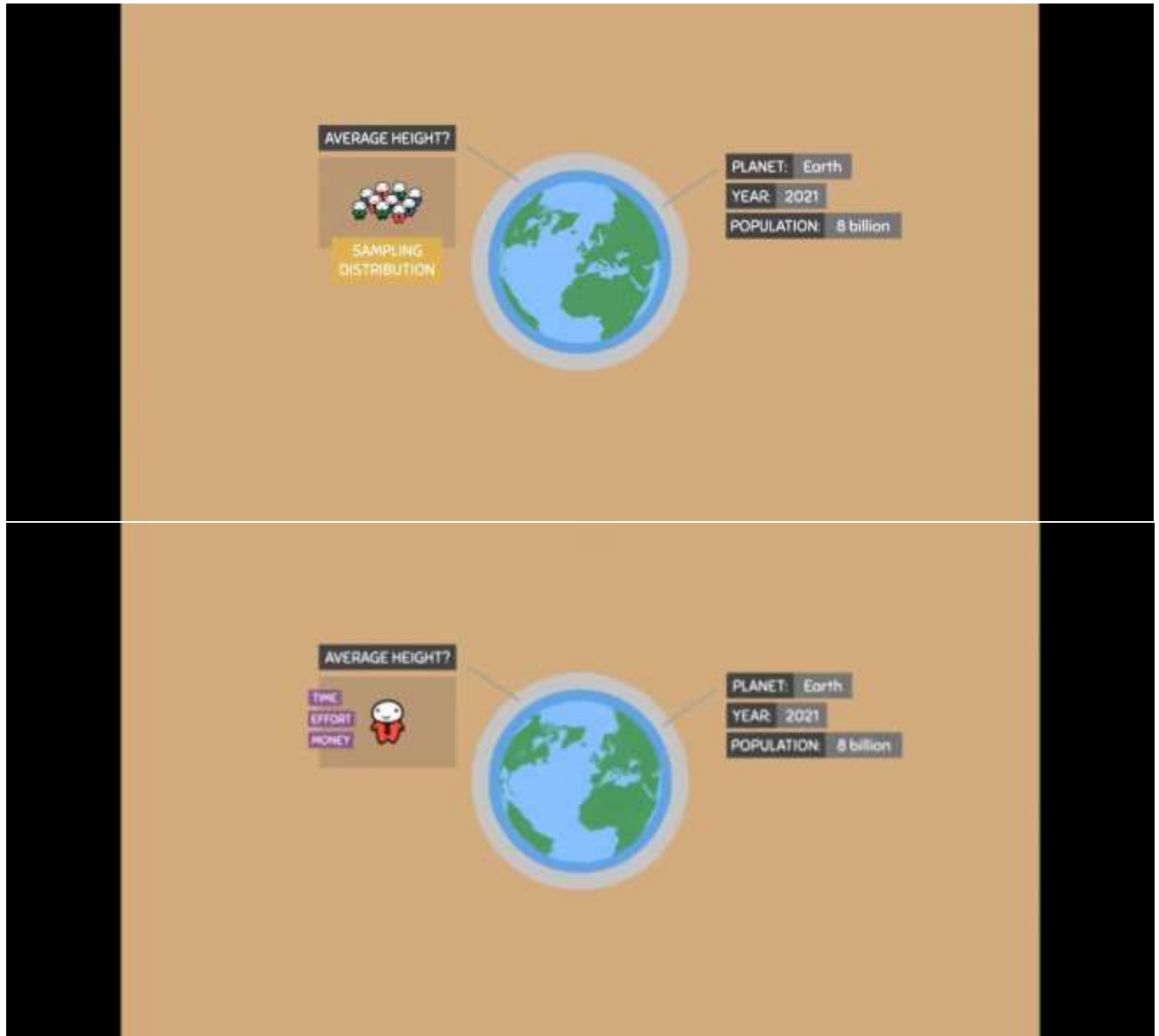
AVERAGE HEIGHT?



PLANET: Earth

YEAR: 2021

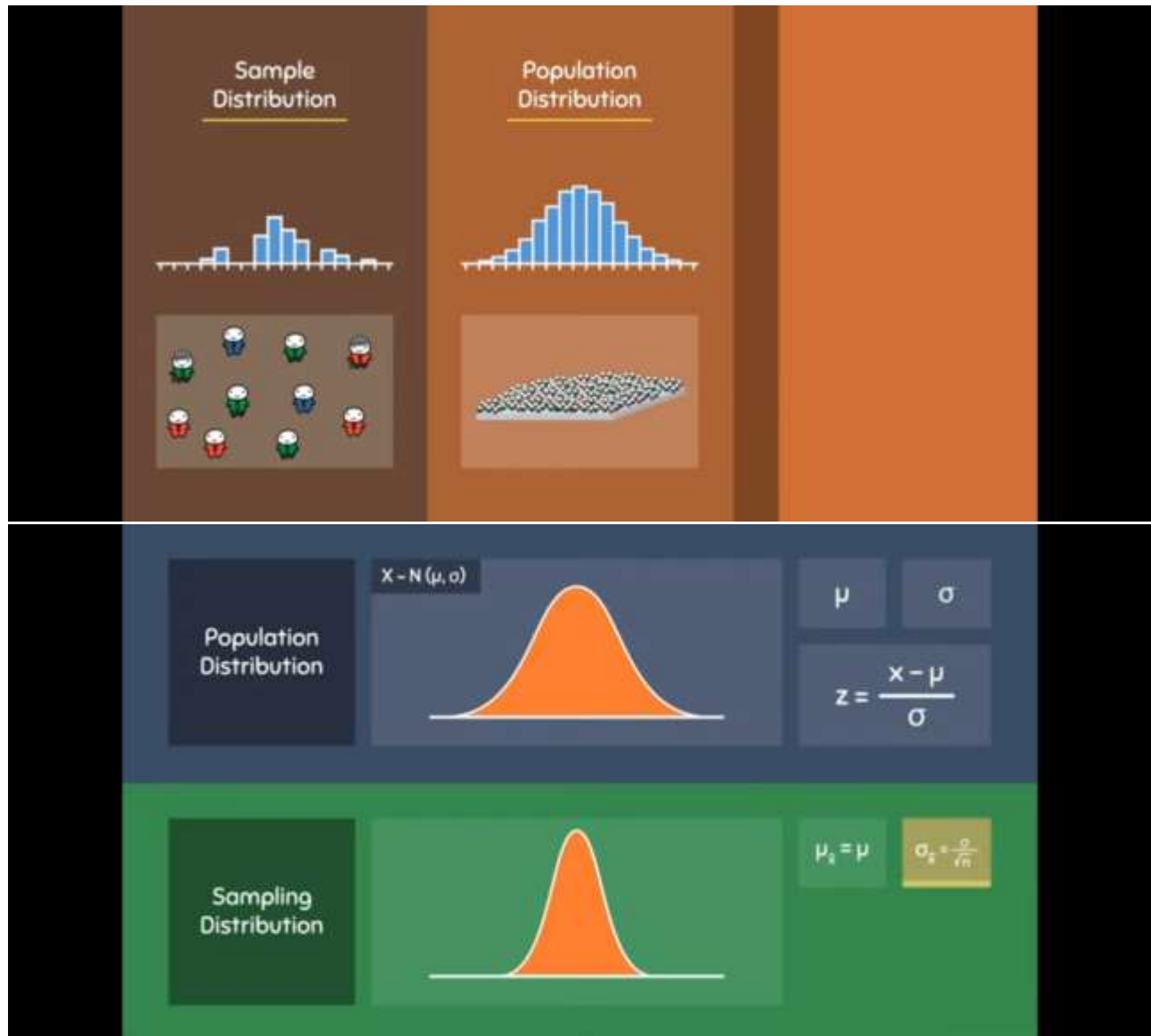
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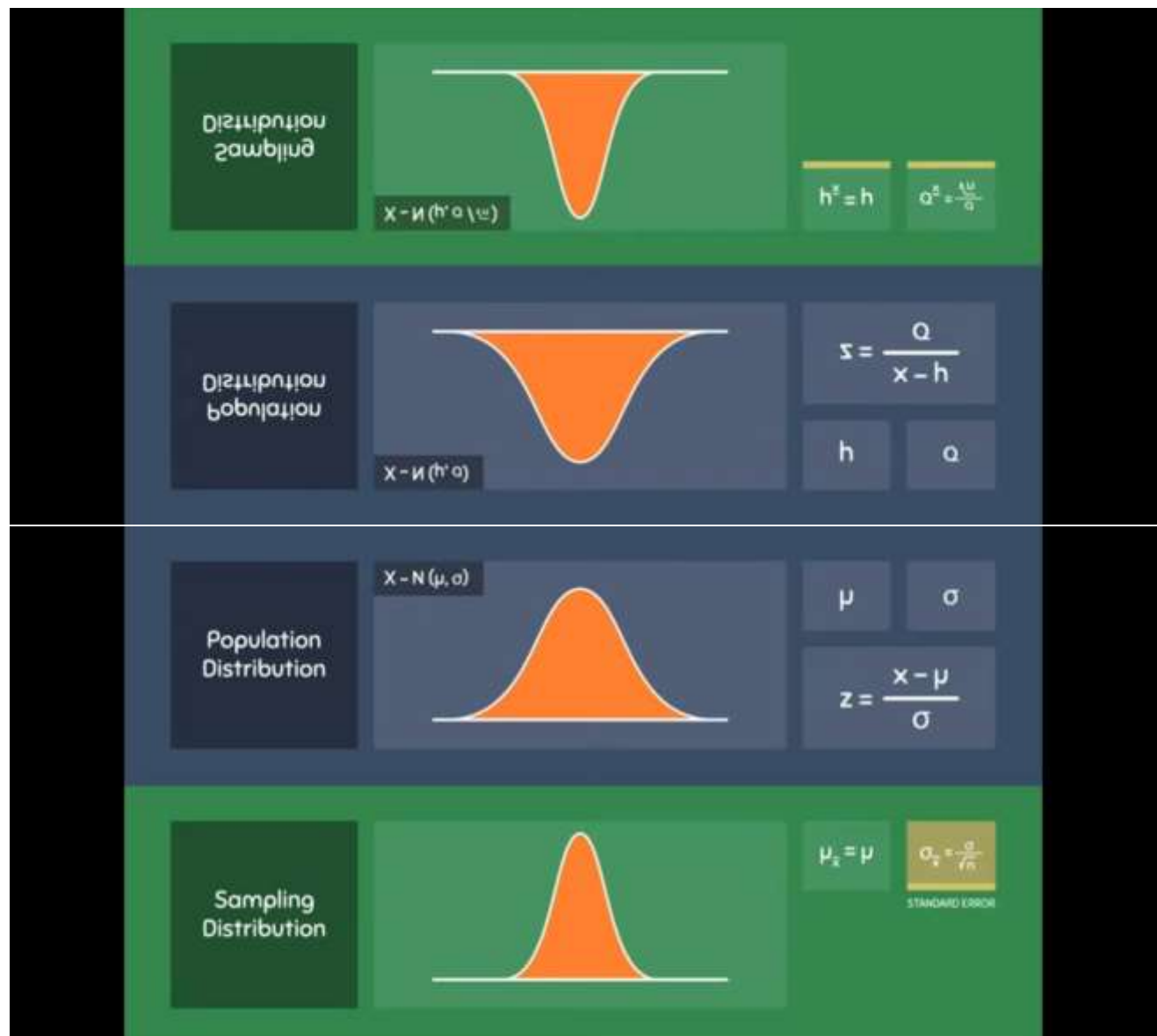
BESANT TECHNOLOGIES



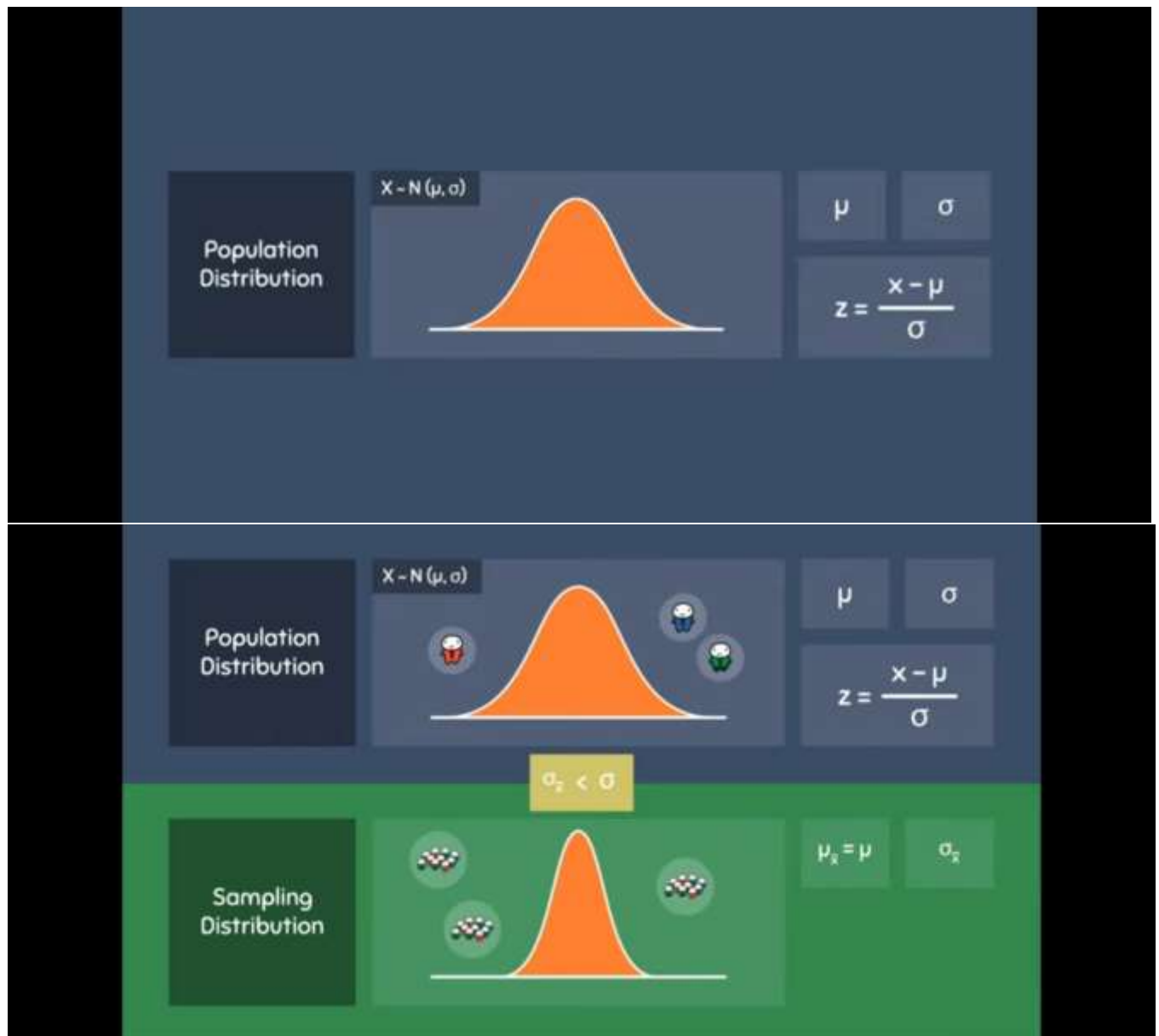
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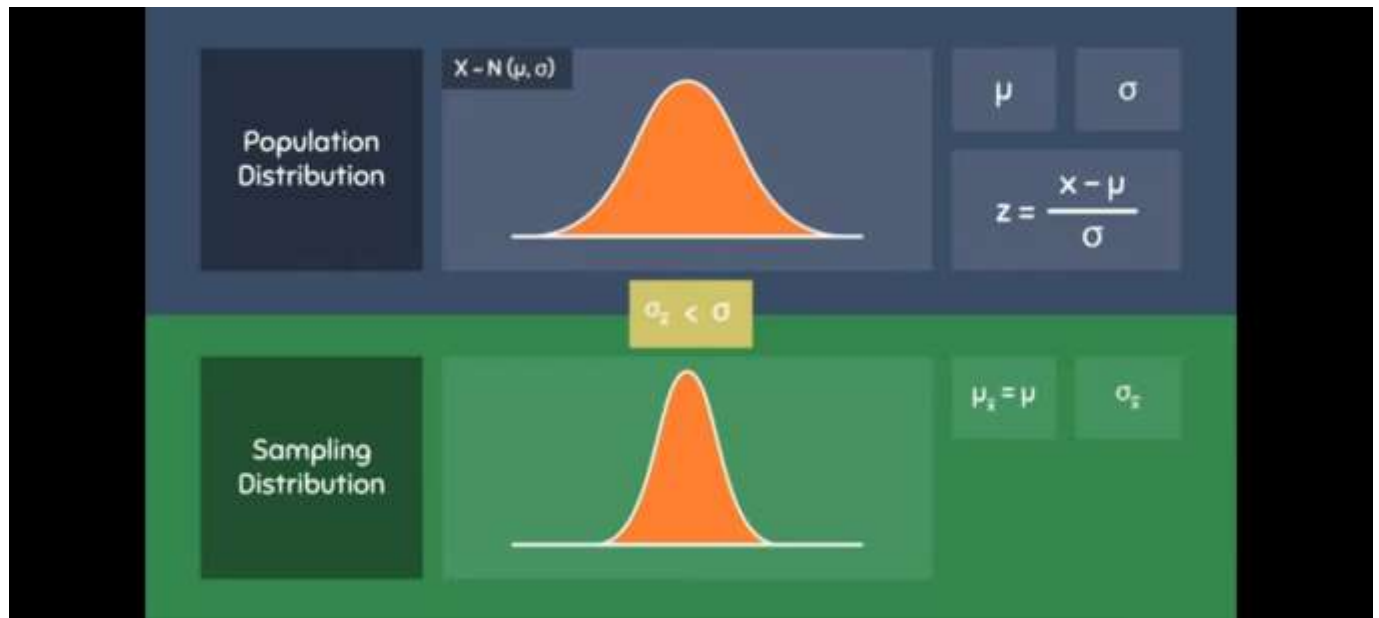
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Sampling Distribution of the Sample Mean



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Sampling Distribution of the Sample Mean



Sampling Distribution of the Sample Mean



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Sampling Distribution of the Sample Mean



Sampling Distribution of the Sample Mean



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Sample Distribution

Involves taking a singular sample from a population, and interpreting the data



Sampling Distribution of the Sample Mean



Sampling Distribution

A distribution of a statistic made from multiple simple random samples drawn from a specific population



BESANT TECHNOLOGIES

LEARNING OBJECTIVES



SAMPLING DISTRIBUTION



SAMPLE DISTRIBUTION vs SAMPLING DISTRIBUTION



What's the difference between a Sample Distribution and a Sampling Distribution?

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