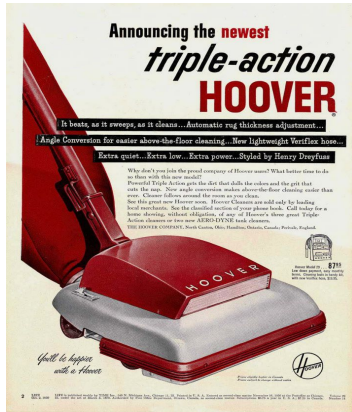


https://drive.google.com/open?id=1z2nAWyajWx1oXVRAzyRquhmbjEsj94_b



LOGARITHMS

Log = - .9571

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1.0	.0000	.0013	.0026	.0039	.0051	.0063	.0075	.0087	.0099	.0110	.0121	.0132	.0143	.0154	.0165	.0176	.0187	.0197	.0208	.0218
1.1	.0229	.0239	.0249	.0259	.0269	.0279	.0289	.0299	.0309	.0319	.0329	.0339	.0349	.0359	.0369	.0379	.0389	.0399	.0409	.0419
1.2	.0429	.0439	.0449	.0459	.0469	.0479	.0489	.0499	.0509	.0519	.0529	.0539	.0549	.0559	.0569	.0579	.0589	.0599	.0609	.0619
1.3	.0629	.0639	.0649	.0659	.0669	.0679	.0689	.0699	.0709	.0719	.0729	.0739	.0749	.0759	.0769	.0779	.0789	.0799	.0809	.0819
1.4	.0829	.0839	.0849	.0859	.0869	.0879	.0889	.0899	.0909	.0919	.0929	.0939	.0949	.0959	.0969	.0979	.0989	.0999	.1009	.1019
1.5	.1029	.1039	.1049	.1059	.1069	.1079	.1089	.1099	.1109	.1119	.1129	.1139	.1149	.1159	.1169	.1179	.1189	.1199	.1209	.1219
1.6	.1229	.1239	.1249	.1259	.1269	.1279	.1289	.1299	.1309	.1319	.1329	.1339	.1349	.1359	.1369	.1379	.1389	.1399	.1409	.1419
1.7	.1429	.1439	.1449	.1459	.1469	.1479	.1489	.1499	.1509	.1519	.1529	.1539	.1549	.1559	.1569	.1579	.1589	.1599	.1609	.1619
1.8	.1629	.1639	.1649	.1659	.1669	.1679	.1689	.1699	.1709	.1719	.1729	.1739	.1749	.1759	.1769	.1779	.1789	.1799	.1809	.1819
1.9	.1829	.1839	.1849	.1859	.1869	.1879	.1889	.1899	.1909	.1919	.1929	.1939	.1949	.1959	.1969	.1979	.1989	.1999	.2009	.2019
2.0	.2029	.2039	.2049	.2059	.2069	.2079	.2089	.2099	.2109	.2119	.2129	.2139	.2149	.2159	.2169	.2179	.2189	.2199	.2209	.2219
2.1	.2229	.2239	.2249	.2259	.2269	.2279	.2289	.2299	.2309	.2319	.2329	.2339	.2349	.2359	.2369	.2379	.2389	.2399	.2409	.2419
2.2	.2429	.2439	.2449	.2459	.2469	.2479	.2489	.2499	.2509	.2519	.2529	.2539	.2549	.2559	.2569	.2579	.2589	.2599	.2609	.2619
2.3	.2629	.2639	.2649	.2659	.2669	.2679	.2689	.2699	.2709	.2719	.2729	.2739	.2749	.2759	.2769	.2779	.2789	.2799	.2809	.2819
2.4	.2829	.2839	.2849	.2859	.2869	.2879	.2889	.2899	.2909	.2919	.2929	.2939	.2949	.2959	.2969	.2979	.2989	.2999	.3009	.3019
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2.6	.3229	.3239	.3249	.3259	.3269	.3279	.3289	.3299	.3309	.3319	.3329	.3339	.3349	.3359	.3369	.3379	.3389	.3399	.3409	.3419
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3.1	.4229	.4239	.4249	.4259	.4269	.4279	.4289	.4299	.4309	.4319	.4329	.4339	.4349	.4359	.4369	.4379	.4389	.4399	.4409	.4419
3.2	.4429	.4439	.4449	.4459	.4469	.4479	.4489	.4499	.4509	.4519	.4529	.4539	.4549	.4559	.4569	.4579	.4589	.4599	.4609	.4619
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3.4	.4829	.4839	.4849	.4859	.4869	.4879	.4889	.4899	.4909	.4919	.4929	.4939	.4949	.4959	.4969	.4979	.4989	.4999	.5009	.5019
3.5	.5029	.5039	.5049	.5059	.5069	.5079	.5089	.5099	.5109	.5119	.5129	.5139	.5149	.5159	.5169	.5179	.5189	.5199	.5209	.5219
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3.8	.5629	.5639	.5649	.5659	.5669	.5679	.5689	.5699	.5709	.5719	.5729	.5739	.5749	.5759	.5769	.5779	.5789	.5799	.5809	.5819
3.9	.5829	.5839	.5849	.5859	.5869	.5879	.5889	.5899	.5909	.5919	.5929	.5939	.5949	.5959	.5969	.5979	.5989	.5999	.6009	.6019
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4.3	.6629	.6639	.6649	.6659	.6669	.6679	.6689	.6699	.6709	.6719	.6729	.6739	.6749	.6759	.6769	.6779	.6789	.6799	.6809	.6819
4.4	.6829	.6839	.6849	.6859	.6869	.6879	.6889	.6899	.6909	.6919	.6929	.6939	.6949	.6959	.6969	.6979	.6989	.6999	.7009	.7019
4.5	.7029	.7039	.7049	.7059	.7069	.7079	.7089	.7099	.7109	.7119	.7129	.7139	.7149	.7159	.7169	.7179	.7189	.7199	.7209	.7219
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4.7	.7429	.7439	.7449	.7459	.7469	.7479	.7489	.7499	.7509	.7519	.7529	.7539	.7549	.7559	.7569	.7579	.7589	.7599	.7609	.7619
4.8	.7629	.7639	.7649	.7659	.7669	.7679	.7689	.7699	.7709	.7719	.7729	.7739	.7749	.7759	.7769	.7779	.7789	.7799	.7809	.7819
4.9	.7829	.7839	.7849	.7859	.7869	.7879	.7889	.7899	.7909	.7919	.7929	.7939	.7949	.7959	.7969	.7979	.7989	.7999	.8009	.8019
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5.1	.8229	.8239	.8249	.8259	.8269	.8279	.8289	.8299	.8309	.8319	.8329	.8339	.8349	.8359	.8369	.8379	.8389	.8399	.8409	.8419
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5.4	.8829	.8839	.8849	.8859	.8869	.8879	.8889	.8899	.8909	.8919	.8929	.8939	.8949	.8959	.8969	.8979	.8989	.8999	.9009	.9019
5.5	.9029	.9039	.9049	.9059	.9069	.9079	.9089	.9099	.9109	.9119	.9129	.9139	.9149	.9159	.9169	.9179	.9189	.9199	.9209	.9219
5.6	.9229	.9239	.9249	.9259	.9269	.9279	.9289	.9299	.9309	.9319	.9329	.9339	.9349	.9359	.9369	.9379	.9389	.9399	.9409	.9419
5.7	.9429	.9439	.9449	.9459	.9469	.9479	.9489	.9499	.9509	.9519	.9529	.9539	.9549	.9559	.9569	.9579	.9589	.9599	.9609	.9619
5.8	.9629	.9639	.9649	.9659	.9669	.9679	.9689	.9699	.9709	.9719	.9729	.9739	.9749	.9759	.9769	.9779	.9789	.9799	.9809	.9819
5.9	.9829	.9839	.9849	.9859	.9869	.9879	.9889	.9899	.9909	.9919	.9929	.9939	.9949	.9959	.9969	.9979	.9989	.9999	1.0009	1.0019
6.0	1.0029	1.0039	1.0049	1.0059	1.0069	1.0079	1.0089	1.0099	1.0109	1.0119	1.0129	1.0139	1.0149	1.0159	1.0169	1.0179	1.0189	1.0199	1.0209	1.0219

-B-

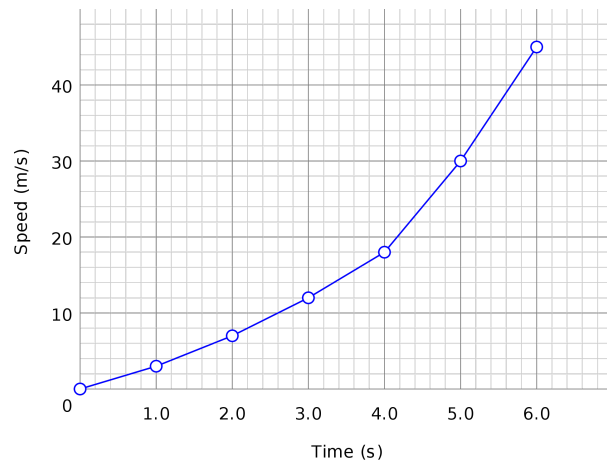
Log = - .9571

LOGARITHMS

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5.5	.7429	.7439	.7449	.7459	.7469	.7479	.7489	.7499	.7509	.7519	.7529	.7539	.7549	.7559	.7569	.7579	.7589	.7599	.7609	.7619
5.6	.7629	.7639	.7649	.7659	.7669	.7679	.7689	.7699	.7709	.7719	.7729	.7739	.7749	.7759	.7769	.7779	.7789	.7799	.7809	.7819
5.7	.7829	.7839	.7849	.7859	.7869	.7879	.7889	.7899	.7909	.7919	.7929	.7939	.7949	.7959	.7969	.7979	.7989	.7999	.8009	.8019
5.8	.8029	.8039	.8049	.8059	.8069	.8079	.8089	.8099	.8109	.8119	.8129	.8139	.8149	.8159	.8169	.8179	.8189	.8199	.8209	.8219
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6.0	.8429	.8439	.8449	.8459	.8469	.8479	.8489	.8499	.8509	.8519	.8529	.8539	.8549	.8559	.8569	.8579	.8589	.8599	.8609	.8619
6.1	.8629	.8639	.8649	.8659	.8669	.8679	.8689	.8699	.8709	.8719	.8729	.8739	.8749	.8759	.8769	.8779	.8789	.8799	.8809	.8819
6.2	.8829	.8839	.8849	.8859	.8869	.8879	.8889	.8899	.8909	.8919	.8929	.8939	.8949	.8959	.8969	.8979	.8989	.8999	.9009	.9019
6.3	.9029	.9039	.9049	.9059	.9069	.9079	.9089	.9099	.9109	.9119	.9129	.9139	.9149	.9159	.9169	.9179	.9189	.9199	.9209	.9219
6.4	.9229	.9239	.9249	.9259	.9269	.9279	.9289	.9299	.9309	.9319	.9329	.9339	.9349	.9359	.9369	.9379	.9389	.9399	.9409	.9419
6.5	.9429	.9439	.9449	.9459	.9469	.9479	.9489	.9499	.9509	.9519	.9529	.9539	.9549	.9559	.9569	.9579	.9589	.9599	.9609	.9619
6.6	.9629	.9639	.9649	.9659	.9669	.9679	.9689	.9699	.9709	.9719	.9729	.9739	.9749	.9759	.9769	.9779	.9789	.9799	.9809	.9819
6.7	.9829	.9839	.9849	.9859	.9869	.9879	.9889	.9899	.9909	.9919	.9929	.9939	.9949	.9959	.9969	.9979	.9989	.9999	1.0009	1.0019
6.8	.9929	.9939	.9949	.9959	.9969	.9979	.9989	.9999	1.0009	1.0019	1.0029	1.0039	1.0049	1.0059	1.0069	1.0079	1.0089	1.0099	1.0109	1.0119
6.9	1.0129	1.0139	1.0149	1.0159	1.0169	1.0179	1.0189	1.0199	1.0209	1.0219	1.0229	1.0239	1.0249	1.0259	1.0269	1.0279	1.0289	1.0299	1.0309	1.0319
7.0	1.0329	1.0339	1.0349	1.0359	1.0369	1.0379	1.0389	1.0399	1.0409	1.0419	1.0429	1.0439	1.0449	1.0459	1.0469	1.0479	1.0489	1.0499	1.0509	1.0519
7.1	.0519	.0529	.0539	.0549	.0559	.0569	.0579	.0589	.0599	.0609	.0619	.0629	.0639	.0649	.0659	.0669	.0679	.0689	.0699	.0709
7.2	.0719	.0729	.0739	.0749	.0759	.0769	.0779	.0789	.0799	.0809	.0819	.0829	.0839	.0849	.0859	.0869	.0879	.0889	.0899	.0909
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7.8	.1919	.1929	.1939	.1949	.1959	.1969	.1979	.1989	.1999	.2009	.2019	.2029	.2039	.2049	.2059	.2069	.2079	.2089	.2099	.2109
7.9	.2119	.2129	.2139	.2149	.2159	.2169	.2179	.2189	.2199	.2209	.2219	.2229	.2239	.2249	.2259	.2269	.2279	.2289	.2299	.2309
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8.1	.2519	.2529	.2539	.2549	.2559	.2569	.2579	.2589	.2599	.2609	.2619	.2629	.2639	.2649	.2659	.2669	.2679	.2689	.2699	.2709
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8.4	.3119	.3129	.3139	.3149	.3159	.3169	.3179	.3189	.3199	.3209	.3219	.3229	.3239	.3249	.3259	.3269	.3279	.3289	.3299	.3309
8.5	.3319	.3329	.3339	.3349	.3359	.3369	.3379	.3389	.3399	.3409	.3419	.3429	.3439	.3449	.3459	.3469	.3479	.3489	.3499	.3509
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8.8	.3919	.3929	.3939	.3949	.3959	.3969	.3979	.3989	.3999	.4009	.4019	.4029	.4039	.4049	.4059	.4069	.4079	.4089	.4099	.4109
8.9	.4119	.4129	.4139	.4149	.4159	.4169	.4179	.4189	.4199	.4209	.4219	.4229	.4239	.4249	.4259	.4269	.4279	.4289	.4299	.4309
9.0	.4319	.4329	.4339	.4349	.4359	.4369	.4379	.4389	.4399	.4409	.4419	.4429	.4439	.4449	.4459	.4469	.4479	.4489	.4499	.4509
9.1	.4519	.4529	.4539	.4549	.4559	.4569	.4579	.4589	.4599	.4609	.4619	.4629	.4639	.4649	.4659	.4669	.4679	.4689	.4699	.4709
9.2	.4719	.4729	.4739	.4749	.4759	.4769	.4779	.4789	.4799	.4809	.4819	.4829	.4839	.4849	.4859	.4869	.4879	.4889	.4899	.4909
9.3	.4919	.4929	.4939	.4949	.4959	.4969	.4979	.4989	.4999	.5009	.5019	.5029	.5039	.5049	.5059	.5069	.5079	.5089	.5099	.5109
9.4	.5119	.5129	.5139	.5149	.5159	.5169	.5179	.5189	.5199	.5209	.5219	.5229	.5239	.5249	.5259	.5269	.5279	.5289	.5299	.5309
9.5	.5319	.5329	.5339	.5349	.5359	.5369	.5379	.5389	.5399	.5409	.5419	.5429	.5439	.5449	.5459	.5469	.5479	.5489	.5499	.5509
9.6	.5519	.5529	.5539	.5549	.5559	.5569	.5579	.5589	.5599	.5609	.5619	.5629	.5639	.5649	.5659	.5669	.5679	.5689	.5699	.5709
9.7	.5719	.5729	.5739	.5749	.5759	.5769	.5779	.5789	.5799	.5809	.5819	.5829	.5839	.5849	.5859	.5869	.5879	.5889	.5899	.5909
9.8	.5919	.5929	.5939	.5949	.5959	.5969	.5979	.5989	.5999	.6009	.6019	.6029	.6039	.6049	.6059	.6069	.6079	.6089	.6099	.6109
9.9	.6119	.6129	.6139	.6149	.6159	.6169	.6179	.6189	.6199	.6209	.6219	.6229	.6239	.6249	.6259	.6269	.6279	.6289	.6299	.6309
10.0	.6319	.6329	.6339	.6349	.6359	.6369	.6379	.6389	.6399	.6409	.6419	.6429	.6439	.6449	.6459	.6469	.6479	.6489	.6499	.6509
10.1	.6519	.6529	.6539	.6549	.6559	.6569	.6579	.6589	.6599	.6609	.6619	.6629	.6639	.6649	.6659	.6669	.6679	.6689	.6699	.6709
10.2	.6719	.6729	.6739	.6749	.6759	.6769	.6779	.6789	.6799	.6809	.6819	.6829	.6839	.6849	.6859	.6869	.6879	.6889	.6899	.6909
10.3	.6919	.6929	.6939	.6949	.6959	.6969	.6979	.6989	.6999	.7009	.7019	.7029	.7039	.7049	.7059	.7069	.7079	.7089	.7099	.7109
10.4	.7119	.7129	.7139	.7149	.7159	.7169	.7179	.7189	.7199	.7209	.7219	.7229	.7239	.7249	.7259	.7269	.7279	.7289	.7299	.7309
10.5	.7319	.7329	.7339	.7349	.7359	.7369	.7379	.7389	.7399	.7409	.7419	.7429	.7439	.7449	.7459	.7469	.7479	.7489	.7499	.7509
10.6	.7519	.7529	.7539	.7549	.7559	.7569	.7579	.7589	.7599	.7609	.7619	.7629	.7639	.7649	.7659	.7669	.7679	.7689	.7699	.7709
10.7	.7719	.7729	.7739	.7749	.7759	.7769	.7779	.7789	.7799	.7809	.7819	.7829	.7839	.7849	.7859	.7869	.7879	.7889	.7899	.7909
10.8	.7919	.7929	.7939	.7949	.7959	.7969	.7979	.7989	.7999	.8009	.8019	.8029	.8039	.8049	.8059	.8069	.8079	.8089	.8099	.8109
10.9	.8119	.8129	.8139	.8149	.8159	.8169	.8179	.8189	.8199	.8209	.8219	.8229	.8239	.8249	.8259	.8269	.8279	.8289	.8299	.8309
11.0	.8319	.8329	.8339	.8349	.8359	.8369	.8379	.8389	.8399	.8409	.8419	.8429	.8439	.8449	.8459	.8469	.8479	.8489	.8499	.8509
11.1	.8519	.8529	.8539	.8549	.8559	.8569	.8579	.8589	.8599	.8609	.8619	.8629	.8639	.8649	.8659	.8669	.8679	.8689	.8699	.8709
11.2	.8719	.8729	.8739	.8749	.8759	.8769	.8779	.8789	.8799	.8809	.8819	.8829	.8839	.8849	.8859	.8869	.8879	.8889	.8899	.8909
11.3	.8919	.8929	.8939	.8949	.8959	.8969	.8979	.8989	.8999	.9009	.9019	.9029	.9039	.9049	.9059	.9069	.9079	.9089	.9099	.9109
11.4	.9119	.9129	.9139	.9149	.9159	.9169	.9179	.9189	.9199	.9209	.9219	.9229	.9239	.9249	.9259	.9269	.9279	.9289	.9299	.9309
11.5	.9319	.9329	.9339	.9349	.9359	.9369	.9379	.9389	.9399	.9409	.9419	.9429	.9439	.9449	.9459	.9469	.9479	.9489	.9499	.9509
11.6	.9519	.9529	.9539	.9549	.9559	.9569	.9579	.9589	.9599	.9609	.9619	.9629	.9639	.9649	.9659	.9669	.9679	.9689	.9699	.9709
11.7	.9719	.9729	.9739	.9749	.9759	.9769	.9779	.9789	.9799	.9809	.9819	.9829	.9839	.9849	.9859	.98				

$$\begin{aligned} &= \log 15^4 - \log 5^2 - \log 3^2 \\ &= \log 15^4 - (\log 5^2 + \log 3^2) \\ &= \log \frac{15^4}{5^2 \cdot 3^2} \\ &= \log 45 \end{aligned}$$





Students need to be able to:

- can identify digital devices and explain what makes them digital
- know that digital devices are created by people for particular purposes
- have some understanding of the role digital devices play in our everyday lives.