

centimeters



inches

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
38.27	48.77	58.44	68.30	78.34	88.57	98.99	109.59	120.38	131.36	142.54	153.92	165.50	177.28	189.26	201.44	213.82	226.40	239.18	252.16	265.34	278.72	292.30	306.08	320.06	334.24	348.62	363.20	377.98	392.96	408.14	423.52	439.10	454.88	470.86	487.04	503.42	520.00	536.78	553.76	570.94	588.32	605.90	623.68	641.66	659.84	678.22	696.80	715.58	734.56	753.74	773.12	792.70	812.48	832.46	852.64	873.02	893.60	914.38	935.36	956.54	977.92	999.50	1021.28	1043.26	1065.44	1087.82	1110.40	1133.18	1156.16	1179.34	1202.72	1226.30	1250.08	1274.06	1298.24	1322.62	1347.20	1371.98	1396.96	1422.14	1447.52	1473.10	1498.88	1524.86	1551.04	1577.42	1604.00	1630.78	1657.76	1684.94	1712.32	1739.90	1767.68	1795.66	1823.84	1852.22	1880.80	1909.58	1938.56	1967.74	1997.12	2026.70	2056.48	2086.46	2116.64	2147.02	2177.60	2208.38	2239.36	2270.54	2301.92	2333.50	2365.28	2397.26	2429.44	2461.82	2494.40	2527.18	2560.16	2593.34	2626.72	2660.30	2694.08	2728.06	2762.24	2796.62	2831.20	2865.98	2900.96	2936.14	2971.52	3007.10	3042.88	3078.86	3115.04	3151.42	3188.00	3224.78	3261.76	3298.94	3336.32	3373.90	3411.68	3449.66	3487.84	3526.22	3564.80	3603.58	3642.56	3681.74	3721.12	3760.70	3800.48	3840.46	3880.64	3921.02	3961.60	4002.38	4043.36	4084.54	4125.92	4167.50	4209.28	4251.26	4293.44	4335.82	4378.40	4421.18	4464.16	4507.34	4550.72	4594.30	4638.08	4682.06	4726.24	4770.62	4815.20	4860.08	4905.16	4950.44	4995.92	5041.60	5087.48	5133.56	5179.84	5226.32	5273.00	5319.88	5366.96	5414.24	5461.72	5509.40	5557.28	5605.36	5653.64	5702.12	5750.80	5799.68	5848.76	5898.04	5947.52	5997.20	6047.08	6097.16	6147.44	6197.92	6248.60	6299.48	6350.56	6401.84	6453.32	6504.90	6556.68	6608.66	6660.84	6713.22	6765.80	6818.58	6871.56	6924.74	6978.12	7031.70	7085.48	7139.46	7193.64	7248.02	7302.60	7357.38	7412.36	7467.54	7522.92	7578.50	7634.28	7690.26	7746.44	7802.82	7859.40	7916.18	7973.16	8030.34	8087.72	8145.30	8203.08	8261.06	8319.24	8377.62	8436.20	8494.98	8553.96	8613.14	8672.52	8732.10	8791.88	8851.86	8912.04	8972.42	9033.00	9093.78	9154.76	9215.94	9277.32	9338.90	9400.68	9462.66	9524.84	9587.22	9649.80	9712.58	9775.56	9838.74	9902.12	9965.70	10029.48	10093.46	10157.64	10222.02	10286.60	10351.38	10416.36	10481.54	10546.92	10612.50	10678.28	10744.26	10810.44	10876.82	10943.40	11010.18	11077.16	11144.34	11211.72	11279.30	11347.08	11415.06	11483.24	11551.62	11620.20	11688.98	11757.96	11827.14	11896.52	11966.10	12035.88	12105.86	12176.04	12246.42	12317.00	12387.78	12458.76	12529.94	12601.32	12672.90	12744.68	12816.66	12888.84	12961.22	13033.80	13106.58	13179.56	13252.74	13326.12	13399.70	13473.48	13547.46	13621.64	13696.02	13770.60	13845.38	13920.36	13995.54	14070.92	14146.50	14222.28	14298.26	14374.44	14450.82	14527.40	14604.18	14681.16	14758.34	14835.72	14913.30	14991.08	15069.06	15147.24	15225.62	15304.20	15382.98	15461.96	15541.14	15620.52	15699.10	15777.88	15856.86	15936.04	16015.42	16095.00	16174.78	16254.76	16334.94	16415.32	16495.90	16576.68	16657.66	16738.84	16820.22	16901.80	16983.58	17065.56	17147.74	17230.12	17312.70	17395.48	17478.46	17561.64	17645.02	17728.60	17812.38	17896.36	17980.54	18064.92	18149.50	18234.28	18319.26	18404.44	18489.82	18575.40	18661.18	18747.16	18833.34	18919.72	19006.30	19093.08	19179.96	19267.04	19354.32	19441.80	19529.48	19617.36	19705.44	19793.72	19882.20	19970.88	20059.76	20148.84	20238.12	20327.60	20417.28	20507.16	20597.24	20687.52	20777.90	20868.48	20959.26	21050.24	21141.42	21232.80	21324.38	21416.16	21508.14	21599.32	21690.70	21782.28	21874.06	21966.04	22058.22	22150.60	22243.18	22335.96	22428.94	22522.12	22615.50	22709.08	22802.86	22896.84	22991.02	23085.40	23180.08	23274.96	23369.94	23465.12	23560.50	23656.08	23751.86	23847.84	23944.02	24040.40	24136.98	24233.76	24330.74	24427.92	24525.30	24622.88	24720.66	24818.64	24916.82	25015.20	25113.78	25212.56	25311.54	25410.72	25510.10	25609.68	25709.46	25809.44	25909.62	26009.90	26110.38	26211.06	26311.94	26412.92	26514.10	26615.48	26717.06	26818.84	26920.82	27022.90	27125.18	27227.66	27330.34	27433.22	27536.30	27639.58	27743.06	27846.74	27950.62	28054.70	28158.98	28263.46	28368.14	28473.02	28578.10	28683.38	28788.86	28894.54	28999.42	29104.50	29209.78	29315.26	29420.94	29526.82	29632.90	29739.18	29845.66	29952.34	30059.22	30166.30	30273.58	30381.06	30488.74	30596.62	30704.70	30812.98	30921.46	31030.14	31139.02	31248.10	31357.38	31466.86	31576.54	31686.42	31796.50	31906.78	32017.26	32127.94	32238.82	32349.90	32461.18	32572.66	32684.34	32796.22	32908.30	33020.58	33133.06	33245.74	33358.62	33471.70	33584.98	33698.46	33812.14	33926.02	34040.10	34154.38	34268.86	34383.54	34498.42	34613.50	34728.78	34844.26	34959.94	35075.82	35191.90	35308.18	35424.66	35541.34	35658.22	35775.30	35892.58	36009.96	36127.54	36245.32	36363.30	36481.48	36599.86	36718.44	36837.22	36956.20	37075.38	37194.76	37314.34	37434.12	37554.10	37674.28	37794.66	37915.24	38035.92	38156.80	38277.88	38399.16	38520.64	38642.32	38764.20	38886.28	39008.56	39130.94	39253.52	39376.30	39499.28	39622.46	39745.84	39869.42	39993.20	40117.18	40241.36	40365.74	40490.32	40615.10	40740.08	40865.26	40990.64	41116.22	41241.90	41367.78	41493.86	41620.14	41746.62	41873.30	41999.18	42125.26	42251.54	42378.02	42504.70	42631.68	42758.86	42886.24	43013.82	43141.60	43269.58	43397.76	43526.14	43654.72	43783.50	43912.48	44041.66	44170.94	44299.42	44429.00	44558.78	44688.76	44818.94	44949.32	45079.90	45210.68	45341.66	45472.84	45604.22	45735.80	45867.58	45999.56	46131.74	46264.12	46396.70	46529.48	46662.46	46795.64	46929.02	47062.60	47196.38	47330.36	47464.54	47598.92	47733.50	47868.28	48003.26	48138.44	48273.82	48409.40	48545.18	48681.16	48817.34	48953.72	49090.30	49227.08	49364.06	49501.24	49638.62	49776.20	49913.98	50051.96	50190.14	50328.52	50467.10	50605.88	50744.86	50884.04	51023.42	51162.90	51302.58	51442.46	51582.54	51722.82	51863.30	52003.98	52144.86	52285.94	52427.22	52568.70	52710.38	52852.26	52994.34	53136.62	53279.10	53421.78	53564.66	53707.74	53850.92	53994.30	54137.88	54281.66	54425.64	54569.82	54714.20	54858.78	55003.56	55148.54	55293.72	55439.10	55584.68	55730.46	55876.44	56022.62	56168.90	56315.38	56462.06	56608.94	56756.02	56903.30	57050.78	57198.46	57346.34	57494.42	57642.70	57791.18	57939.86	58088.74	58237.82	58387.10	58536.58	58686.26	58836.14	58986.22	59136.50	59286.98	59437.66	59588.54	59739.62	59890.90	60042.38	60194.06	60345.94	60498.02	60650.30	60802.78	60955.46	61108.34	61261.42	61414.70	61568.18	61721.86	61875.74	62029.82	62184.10	62338.58	62493.26	62648.14	62803.22	62958.50	63113.98	63269.66	63425.54	63581.62	63737.90	63894.38	64051.06	64207.94	64365.02	64522.30	64679.78	64837.46	64995.34	65153.42	65311.70	65470.18	65628.86	65787.74	65946.82	66106.10	66265.58	66425.26	66585.14	66745.22	66905.50	67065.98	67226.66	67387.54	67548.62	67709.90	67871.38	68033.06	68194.94	68357.02	68519.30	68681.78	68844.46	69007.34	69170.42	69333.70	69497.18	69660.86	69824.74	69988.82	70153.10	70317.58	70482.26	70647.14	70812.22	70977.50	71142.98	71308.66	71474.54	71640.62	71806.90	71973.38	72139.96	72306.74	72473.72	72640.90	72808.28	72975.86	73143.64	73311.62	73479.80	73648.18	73816.76	73985.54	74154.52	74323.70	74493.08	74662.66	74832.44	75002.42	75172.60	75342.98	75513.56	75684.34	75855.32	76026.50	76197.88	76369.46	76541.24	76713.22	76885.40	77057.78	77230.36	77403.14	77576.12	77749.30	77922.68	78096.26	78269.94	78443.82	78617.90	78792.18	78966.66	79141.34	79316.22	79491.30	79666.58	79841.96	80017.54	80193.32	80369.30	80545.48	80721.86	80898.44	81075.22	81252.20	81429.38	81606.76	81784.34	81962.12	82140.10	82318.28	82496.66	82675.24	82854.02