

Cost Comparisons Worksheet **Answers**

- 1. To estimate the cost of different length girders in concrete and steel, complete the table below. Show all your work and calculations. Use the following information to complete your calculations:**

1 cubic yard of concrete = 27 cubic feet of concrete

1 ton of steel = 4.08 cubic feet of steel

B	L	Length	Volume = B x L x Length	Volume (cu.yd.) = ft ³ ÷ 27	Cost of Concrete	Total Cost Using Concrete	Volume (tons) = ft ³ ÷ 4.08	Cost of Steel	Total Cost Using Steel
1 ft	1 ft	20 ft	20 ft³	0.74 cu. yd.	\$65.10 per cubic yard	\$48.17	4.90 tons	\$2,000 per ton	\$9,800
1 ft	2 ft	20 ft	40 ft³	1.48 cu. yd.	\$65.10 per cubic yard	\$96.35	9.80 tons	\$2,000 per ton	\$19,600
1 ft	3 ft	20 ft	60 ft³	2.22 cu. yd.	\$65.10 per cubic yard	\$144.52	14.71 tons	\$2,000 per ton	\$29,420
1 ft	4 ft	20 ft	80 ft³	2.96 cu. yd.	\$65.10 per cubic yard	\$192.70	19.61 tons	\$2,000 per ton	\$39,220
1 ft	5 ft	20 ft	100 ft³	3.70 cu. yd.	\$65.10 per cubic yard	\$240.87	24.51 tons	\$2,000 per ton	\$49,020
1 ft	1 ft	40 ft	40 ft³	1.48 cu. yd.	\$65.10 per cubic yard	\$96.35	9.80 tons	\$2,000 per ton	\$19,600
1 ft	2 ft	40 ft	80 ft³	2.96 cu. yd.	\$65.10 per cubic yard	\$192.70	19.61 tons	\$2,000 per ton	\$39,220
1 ft	3 ft	40 ft	120 ft³	4.44 cu. yd.	\$65.10 per cubic yard	\$289.04	29.41 tons	\$2,000 per ton	\$58,820
1 ft	4 ft	40 ft	160 ft³	5.93 cu. yd.	\$65.10 per cubic yard	\$386.04	39.22 tons	\$2,000 per ton	\$78,440
1 ft	5 ft	40 ft	200 ft³	7.40 cu. yd.	\$65.10 per cubic yard	\$481.74	49.02 tons	\$2,000 per ton	\$98,040

2. Create two graphs below, using information from the table.

