

Team Report

KEY

XYZ Company would like to have your chapter estimate the cost of building 45 curbs for them. They want to support your chapter and have offered to pay the chapter to build the curb, but want you to decide between 2 options. Calculate the cost to build the curbs and then decide which payment method you would recommend to your chapter advisor. Complete the steps below to complete this part of the activity.

You are advised to work on this part during the entire time and not put it off until the end as you will run out of time.

Cost Calculations

Use table below to help determine the cost for constructing these curbs. The first column indicates how much of each item is needed for ONE curb.

Needed	Item name	Description	Cut length	Cost Each	Cost for 45
160 lbs	Quickrete	Mixed bag	N/A	11.96	538.20
2	Side form pieces	1" x 6" pine	6 feet	11.23	505.35
1	Bottom form	1" x 8" pine	6 feet	7.49	336.83 - 337.05
2	End cap pieces	1" x 8" pine	7 1/2 inches	21.56	70.19 - 70.20
2	Forklift insert	2" x 6" pine	6 inches	.67	30.02 - 30.15
2	Chamfer corners	45 deg board	6 feet	1.44	64.80
2	Reinforcing pin hole	3/4" PVC pipe	6 inches	.55	24.75 - 24.89
44	Screws/fasteners	1 5/8" screw	N/A	1.61	72.45 - 72.53
				Total	\$1642.57

Prices:	80 lb bag of Quickrete	\$5.98/bag
	1" x 6" pine -	\$11.23 for 12' board
	1" x 8" pine -	\$9.98 for a 8' board
	2" x 6" pine	\$6.67 for a 10' board
	2" x 4"	\$5.74 for a 12' board (makes 8 chamfer corners)
	3/4" PVC pipe	\$5.53 for a 10' piece
	1 5/8" screws	\$6.96 for 1 lb box (190 screws per lb)

Total \$1642.57 ← 2 pts

Decision Making

- XYZ will either pay your chapter \$20 above your cost for each curb OR \$2,750 total. Which option would you recommend to your advisor? WHY?

5 pts

\$20 x 45 pcs = \$900 profit

\$2,750 - 1642.57 = \$1,107.43

Recommend accepting \$2,750
- more profit

2. You can order Redi-Mix concrete for \$200 per cubic yard delivered plus a \$50 delivery charge. Each 80 lb bag of Quickrete contains 0.45 cubic feet of material. What would each option cost for this project? (Assume 45 curbs and calculate total cost)

Conversions – 1 cubic yard = 27 cubic feet (show calculations in the space provided)

4 pts Quickrete Option - \$ 538.20 $2 \text{ bags} \times 5.98 = 11.96 \times 45 = \538.20

4 pts Redi-Mix Option - \$ 350.00 $.45 \times 2 = .9 \times 45 = 40.5 / 27 = 1.5 \text{ yds}$
 $1.5 \times 200 = 300 + 50 = \350

3. What would be the advantages for each option?

3 pts Quickrete option – *easier to place in forms? - Would not need to pour all 45 at once.*

3 pts Redi-Mix option – *much cheaper, mixed evenly*

Which concrete option would your team recommend and why?

5 pts = *Give points if they state an option and defend why.*

Final Steps:

Put your team name on the wood form that was constructed with a permanent marker. Turn in all pages to your team supervisor. Be sure that each page has the team/school name on it. Staple all pages together.

Remind your instructor that they may pick up the form that was constructed at the end of the event.