

CREDIT FOR WATER SUPPLY BASED ON A TANKER RELAY OPERATION

STRUCTURE FIRE AT SMITH'S QUICK-MART

Smith's Quick-Mart has a Needed Fire Flow (NFF) of 1500 gpm.

The Coats Fire Department dispatches their Engine #1, Tanker 2 (1500 gallons), Tanker 3 (1250 gallons) and Brush Truck 4.

In addition, the neighboring McLeod Fire District automatically dispatches their Tanker 55 (1250 gallons) and Tanker 56 (1000 gallons) to the grocery and Engine #54 to refill point 7 which is location 0.8 mile from the fire scene. Average one-way travel time @ 35 mph is 2.0 minutes.

Previous tests have shown that the tankers can discharge their water in the following times:

- Tanker 2 (1.8 min.); Tanker 3 (1.6 min.)
- Tanker 55 (2.2 min.); Tanker 56 (1.4 min.)

Tests have also proven that Engine 54 can refill the tankers in the following times:

- Tanker 2 (2.4 min.); Tanker 3 (2.0 min.)
- Tanker 55 (2.4 min.); Tanker 56 (1.9 min.)

Use the following formula:

$$\text{Continuous Flow Chart} = \frac{0.9 \text{ Tanker Capacity}}{\text{Fill Time} + \text{Dump Time} + \text{Round Trip Travel Time}}$$

The difference between the amount of water needed at Smith's Quick-Mart and the credited continuous flow capability is _____ gpm.

Tanker 2	Tanker 3	Tanker 55	Tanker 56

TABLE 6.11F(a)
TIME-DISTANCE TABLE

$$T = 0.65 + 1.70 D$$

Distance, Miles	Time Minutes	Distance, Miles	Time Minutes	Distance, Miles	Time Minutes	Distance, Miles	Time Minutes
0.1	0.8	2.6	5.1	5.1	9.3	7.6	13.6
0.2	1.0	2.7	5.2	5.2	9.5	7.7	13.7
0.3	1.2	2.8	5.4	5.3	9.7	7.8	13.9
0.4	1.3	2.9	5.6	5.4	9.8	7.9	14.1
0.5	1.5	3.0	5.8	5.5	10.0	8.0	14.3
0.6	1.7	3.1	5.9	5.6	10.2	8.1	14.4
0.7	1.8	3.2	6.1	5.7	10.3	8.2	14.6
0.8	2.0	3.3	6.3	5.8	10.5	8.3	14.8
0.9	2.2	3.4	6.4	5.9	10.7	8.4	14.9
1.0	2.4	3.5	6.6	6.0	10.9	8.5	15.1
1.1	2.5	3.6	6.8	6.1	11.0	8.6	15.3
1.2	2.7	3.7	6.9	6.2	11.2	8.7	15.4
1.3	2.9	3.8	7.1	6.3	11.4	8.8	15.6
1.4	3.0	3.9	7.3	6.4	11.5	8.9	15.8
1.5	3.2	4.0	7.5	6.5	11.7	9.0	16.0
1.6	3.4	4.1	7.6	6.6	11.9	9.1	16.1
1.7	3.5	4.2	7.8	6.7	12.0	9.2	16.3
1.8	3.7	4.3	8.0	6.8	12.2	9.3	16.5
1.9	3.9	4.4	8.1	6.9	12.4	9.4	16.6
2.0	4.1	4.5	8.3	7.0	12.6	9.5	16.8
2.1	4.2	4.6	8.5	7.1	12.7	9.6	17.0
2.2	4.4	4.7	8.6	7.2	13.0	9.7	17.1
2.3	4.6	4.8	8.8	7.3	13.1	9.8	17.3
2.4	4.7	4.9	9.0	7.4	13.2	9.9	17.5
2.5	4.9	5.0	9.2	7.5	13.4	10.0	17.7