

Problem 16

Direct Runoff Hydrograph Prediction Using a Unit Hydrograph

[a] 2 pts

$$V_d = \boxed{33.86} \text{ ac-ft}$$

[b] 2 pts

$$r_d = \boxed{1.00} \text{ in}$$

[c] 4 pts

[d] 4 pts

| Time (min) | DRH (cfs) | DRH (cfs) |
|------------|-----------|-----------|
| 0 | 0.0 | 0.0 |
| 30 | 29.7 | 17.0 |
| 60 | 69.2 | 39.5 |
| 90 | 138.3 | 91.8 |
| 120 | 207.8 | 148.4 |
| 150 | 276.9 | 217.5 |
| 180 | 316.4 | 269.8 |
| 210 | 286.7 | 282.5 |
| 240 | 257.0 | 282.5 |
| 270 | 217.6 | 247.2 |
| 300 | 158.2 | 200.6 |
| 330 | 118.7 | 161.1 |
| 360 | 89.0 | 118.7 |
| 390 | 64.4 | 87.7 |
| 420 | 34.7 | 58.0 |
| 450 | 19.9 | 39.0 |
| 480 | 9.8 | 20.5 |
| 510 | 0.0 | 8.5 |
| 540 | 0.0 | 4.2 |
| 570 | 0.0 | 0.0 |