20-02 *Solution*

Rapid Motion Formulas

➔ Answers to questions:

1. L = (T x R) / 60

2. T = (L x 60) / R

3. R = (L x 60) / T

4. L = (T x R) / 60 = (1.5 x 25000) / 60 = 625 mm

5. T = (L x 60) / R = (650 x 60) / 20000 = 1.95 seconds

6. R = (L x 60) / T = (14.734 x 60) / 2.21 = 400 in/min

7. First find the incremental distance between the two points:

   X = 711.1 - 107.6 = 603.5
   Y = 355.45 - 63.85 = 291.6

   then input the ***longer*** distance (604.783) into the formula:

   R = (L x 60) / T = (603.5 x 60) / 2.13 = 17000 mm/min

8. L = (T x R) / 60 = (1.78 x 18000) / 60 = 534 mm

9. R = (L x 60) / T = (18.9 x 60) / 1.89 = 600 in/min

10. The longer distance always matters more (X in this case):

    T = (L x 60) / R = (403.33 x 60) / 22000 = 1.1 seconds