Solution.

Let's find a rate of depositing cement:

A new machine:

$$v_1 = \frac{\frac{1}{2}\ \text{m}}{16\ \text{h}} = \frac{1}{32}\ {}^{\text{m}}/_{\text{h}}$$

An older machine:

$$v_2 = \frac{\frac{1}{2}\ \text{m}}{18\ \text{h}} = \frac{1}{36}\ {}^{\text{m}}/_{\text{h}}$$

Find a section of road, where the new machine completed a job:

$$s_1 = 9\ \text{h} \cdot \frac{1}{32}\ {}^{\text{m}}/_{\text{h}} = \frac{9}{32}\ \text{m}$$

Then find a section of road, where the older machine must complete the job:

$$s_2 = \frac{1}{2}\ \text{m} - \frac{9}{32}\ \text{m} = \frac{7}{32}\ \text{m}$$

Find a time that is required to complete the job:

$$t = \frac{s_2}{v_2} = \frac{7}{32} \cdot 36 = 7.875 \approx 7.9\ (\text{h})$$

Answer: $t = 7.9$ h.