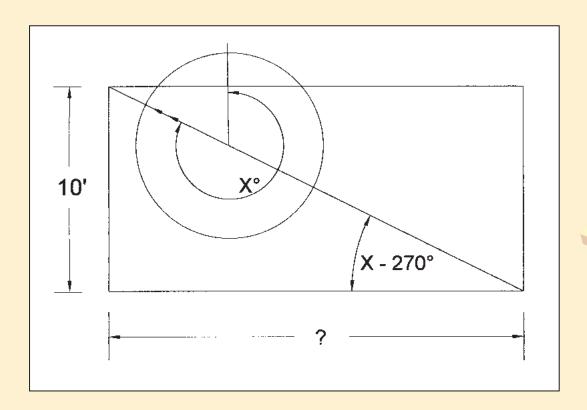


Solution to Problem 52



The clock is between 9:00 o'clock and noon (The problem stated "morning sun"). There are three possibilities:

1. The minute hand turns at the rate of 1 hour = 360, the hour hand turns at the rate of 12 hours = 360° . If it was between 9 and 10 o'clock:

 $(x^{\circ} + 9*360^{\circ})(1 \text{ hour } / 360^{\circ}) = x^{\circ}(12 \text{ hour } / 360^{\circ})$

$$x + 3240 = 12 x$$
, and $x = 294^{\circ}32'44''$

This converts to 9:49:09 a.m.

The wall length would be 10*tan(360°-x) = 21.5°

2. If it was between 10 and 11 o'clock:

$$(x^{\circ} = 10*360)(1 \text{ hour } / 360^{\circ}) = x^{\circ} (12 \text{ hour } / 360^{\circ})$$

$$x + 3600 = 12 x$$
, and $x = 327^{\circ} 16'22''$

This converts to 10:54:55 a.m.

The wall length would be 10*tan(360°-x) = 6.4', not likely.

3. The only other possibility is that it was noon ($x = 360^{\circ}$, with a wall length of zero).