1.1

\[ s^2 + s^2 = d^2 \]
\[ 2s^2 = \frac{d^2}{2} \]
\[ s^2 = \frac{d^2}{4} \]
\[ s = \frac{d}{2\sqrt{2}} \]

\[ \text{area} = s^2 = \frac{d^2}{2} \]

\[ \text{Step} \]

\[ \text{a)} \text{ The equation of the line through } \ A \ \& \ B \ \text{ is} \]
\[ y + x = 1 \]
\[ \Rightarrow y = -x + 1 \]

\[ \text{So the coordinates of } \ P \ \text{ are} \ (x, -x+1) \]

\[ \text{b)} \ \text{area} = 2x(-x+1) = -2x^2 + 2x \]

62. Done in Class
1.3.

<table>
<thead>
<tr>
<th>By definition of &quot;radian&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>radians = ( \frac{30\text{ cm}}{50\text{ cm}} ) = 0.6</td>
</tr>
<tr>
<td>degrees = 0.6 \times \frac{180^\circ}{\pi} = 36.44^\circ</td>
</tr>
</tbody>
</table>

39. DONE IN CLASS

60. a) With increasingly smaller windows, \( y=x \) & \( y=\sin(x) \) become indistinguishable

b) In degree mode \( y=\sin(x) \) & \( y=0 \) are almost indistinguishable

c) \( \sin(0.2) = 0.198669 \) (radian mode)
\( \sin(0.2) = 0.03491 \) (degree mode)

1.5 62. DONE IN CLASS

Balance after 6 yrs

\[ B(t) = (1.0475)^t - 500 \]

\[ B(14) = 957.47 \]
\[ B(15) = 1002.95 \]

\( B_0 = 500 \)