5. \( x' = 2, x = 3, y = -1 \).
\[ x^2 + 3y^2 + 2y = 10 \]
\[ 2x x' + 6y y' + 2y' = 0 \] (Remember that we are differentiating with respect to \( t \), not \( x \)).
\[ 2(3)(2) + 6(-1) y' + 2y' = 0 \]
\[ 12 - 6y' + 2y' = 0 \]
\[ 12 - 4y' = 0 \]
\[ y' = 3 \]

19. Let \( s \) be the length of string that has been payed out. Let \( x \) be the distance from the person to the point on the ground below the kite.

\[ x^2 + 100^2 = s^2 \]
\[ x^2 + 10000 = s^2 \]
\[ 8 = 125, \quad x = \sqrt{125^2 - 10000} = \frac{1}{15} \sqrt{625^2 - 10000} = 75 \]

\[ 2 \times x' = 2ss' \]
\[ x x' = ss' \]
\[ (75)x' = (125)(2) = 250 \]
\[ x' = \frac{250}{75} = \frac{10}{3} \]