11. The break-even point is the point where the revenue and the cost are equal.

Cost is given by the variable cost of producing \( x \) pennants at $0.75 per pennant, plus the fixed operational overhead of $300 per day.

\[
C = 0.75x + 300
\]

Revenue is the product of price of each pennant ($1) and the number of pennants sold.

\[
R = 1x
\]

Setting \( R = C \), we find

\[
1x = 0.75x + 300
0.25x = 300
x = 1200
\]

1200 pennants must be sold each day to break even.

13. (a) The market price is the price at which the supply and the demand are equal.

\[
S = D
0.7p + 0.4 = -0.5p + 1.6
1.2p = 1.2
p = 1
\]

The market price is $1.00 per pound.

(b) To find the quantity supplied at market price, let \( p = 1 \) and solve for \( S \):

\[
S = 0.7(1) + 0.4
  = 1.1
\]

So 1.1 million pounds are demanded at $1.00.

(c) The point of intersection called the market equilibrium. It is the price where the quantity supplied equals the quantity demanded.
17. (a) If $R$ denotes the revenue and $p$ denotes the price per paper, then

$$R = px$$

$$R = 1.79x$$

The revenue from delivering $x$ newspapers is $R = 1.79x$.

(b) The cost of delivering $x$ newspapers is $C = 1.13x + 1,252,000$

(c) Profit is the difference between revenue and cost.

$$P = R - C$$

$$P = 1.79x - (1.13x + 1,252,000)$$

$$P = 0.66x - 1,252,000$$

The profit from delivering $x$ newspapers is given by $P = 0.66x - 1,252,000$.

(d) The break-even point is the quantity for which the profit is zero.

$$0 = 0.66x - 1,252,000$$

$$0.66x = 1,252,000$$

$$x = \frac{1,252,000}{0.66} = 1,896,969.697$$

The Tribune must deliver 1,896,970 Sunday papers to break even.

(e) ![Graph showing revenue and cost relationship](image)

(f) ![Graph showing profit relationship](image)

(g) The break-even point is the same as the $x$-intercept of the profit equation.