Buy a zero coupon bond

Payoff = Maturity Value of the Bond = (Purchase Price)(1+i)
Profit = 0 (zero)

Take a loan

Payoff = Minus amount due at end of loan = Minus (Amount of Loan)(1+i)
Profit = 0 (zero)

Buy a stock (or index)

Payoff = Spot Price of Stock at time of sale (at the end when the position is closed out)
Cost = Spot Price of Stock at time of purchase (which is now)
Profit = Payoff – Future Value of the Cost
     = (Spot Price of Stock at time of sale) - (Spot Price of Stock at time of purchase)(1+i)

Sell a stock (or index) short

Payoff = Minus Spot Price of Stock at time of purchase (at the end when the position is closed out)
Cost = Minus Spot Price of Stock at time of sale (which is now)
Profit = Payoff – Future Value of the Cost
     = (Minus Spot Price of Stock at time of purchase) - (Minus Spot Price of Stock at time of sale)(1+i)

Buy a forward contract on stock (or index)

Take a long position in a forward contract

Payoff = Spot Price of Stock at the expiration date – Forward Price
Cost = 0 (zero)
Profit = Payoff – Future Value of the Cost = Payoff – 0 = Payoff

Sell a forward contract on stock (or index)

Take a short position in a forward contract

Payoff = Forward Price - Spot Price of Stock at the expiration date
Cost = 0 (zero)
Profit = Payoff – Future Value of the Cost = Payoff – 0 = Payoff
**Buy a Call**

"Call later"

Payoff = \( \text{Max}(0, \text{Spot Price of Stock at the expiration date} - \text{Strike Price}) \)
Cost = Call Premium
Profit = Payoff – Future Value of the Cost
= \( \text{Max}(0, \text{Spot Price of Stock at the expiration date} - \text{Strike Price}) \) - (Call Premium)(1+i)

**Sell a Call**

"Call later"

Payoff = Minus \( \text{Max}(0, \text{Spot Price of Stock at the expiration date} - \text{Strike Price}) \)
Cost = Minus Call Premium
Profit = Payoff – Future Value of the Cost
= (Minus Max(0, Spot Price of Stock at the expiration date – Strike Price)) - (Minus Call Premium)(1+i)

**Buy a Put**

Payoff = \( \text{Max}(0, \text{Strike Price} - \text{Spot Price of Stock at the expiration date}) \)
Cost = Put Premium
Profit = Payoff – Future Value of the Cost
= \( \text{Max}(0, \text{Strike Price} - \text{Spot Price of Stock at the expiration date}) \) - (Put Premium)(1+i)

**Sell a Put**

Payoff = Minus \( \text{Max}(0, \text{Strike Price} - \text{Spot Price of Stock at the expiration date}) \)
Cost = Minus Put Premium
Profit = Payoff – Future Value of the Cost
= (Minus Max(0, Strike Price - Spot Price of Stock at the expiration date)) - (Minus Put Premium)(1+i)