

Understanding Moving Averages Study Sheet

Moving averages are lagging trend following indicators that average out over time.
The slope of a moving average indicates trend direction.

THE DIFFERENT TYPES OF MOVING AVERAGES

*FORMULAS ADDED FOR MATH GEEKS, NO UNDERSTANDING OF THESE IS NEEDED FOR TRADING!

Simple Moving Average (SMA)

Calculates the average of a range of prices in a period of time.

- Used to eliminate strong price fluctuations
- Puts the same amount of weight on old and new data points.

$$SMA = \frac{Price_1 + Price_2 + \dots + Price_n}{n}$$

where:

n = the number of total periods

$$WMA = \frac{Price_1 \times n + Price_2 \times (n - 1) + \dots + Price_n}{\frac{n \times (n + 1)}{2}}$$

where:

n = Time period

Weighted Moving Average (WMA)

A moving average that puts more weight on recent data points.

- Used to eliminate strong price fluctuations.
- Puts the same amount of weight on old and new data points.

Exponential Moving Average (EMA)

Also weighted, but the weight on later data increases exponentially.

- When a price crosses its EMA, it indicates trend reversal.
- 12 and 26-day EMA are used to create indicators like MACD and PPO.

$$EMA_{Today} = \left(Price_{Today} * \left(\frac{Smoothing}{1 + Days} \right) \right) + EMA_{Yesterday} * \left(1 - \left(\frac{Smoothing}{1 + Days} \right) \right)$$

EMA LINES FOR TREND FOLLOWING



1. Fast, medium, and slow EMAs are closing in on each other and crisscrossing.

- Could indicate that there is no strong trend in place.
- Sit back and wait for the market to break out into trend.

2. EMA lines start fanning out.

- When lines start fanning out it could indicate a breakout into trend.
- Shows a strong trend on high time-frame charts

3. The price touches the fast EMA line.

- This could be a good indication of a pullback.
- This is an opportunity to enter the trade.

4. The market drops below the medium or slow EMA.

- This could be an indication to exit the trade.

5. EMAs close in on each other.

- This could be a good time to get out of the trade and leave the trend alone.

6. Moving average crossover

- When the fast EMA crosses through the medium or slow EMA it could indicate an entry opportunity.

7. The golden cross

- When the fast EMA crosses the slow EMA.
- Could indicate a change in the bigger trend.

