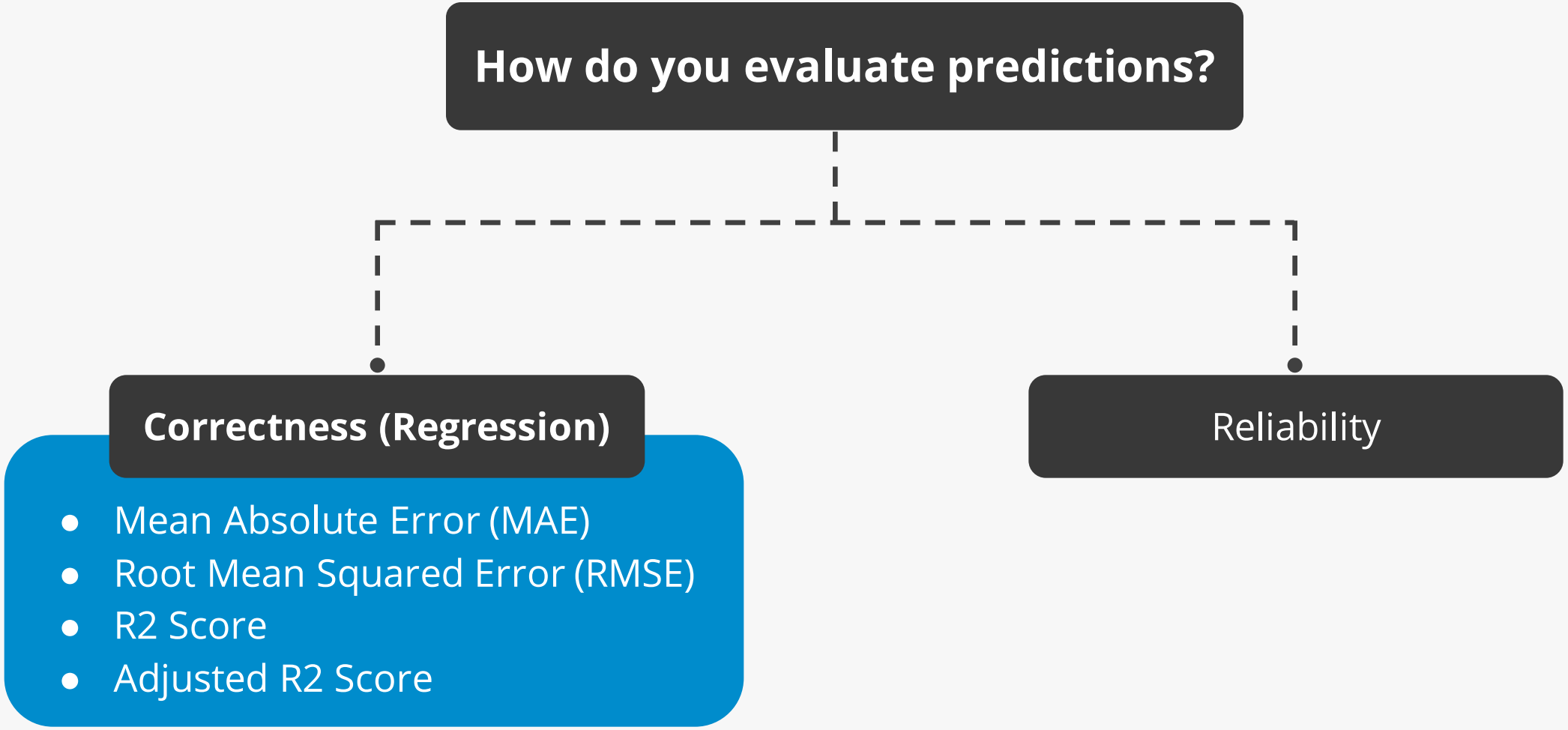
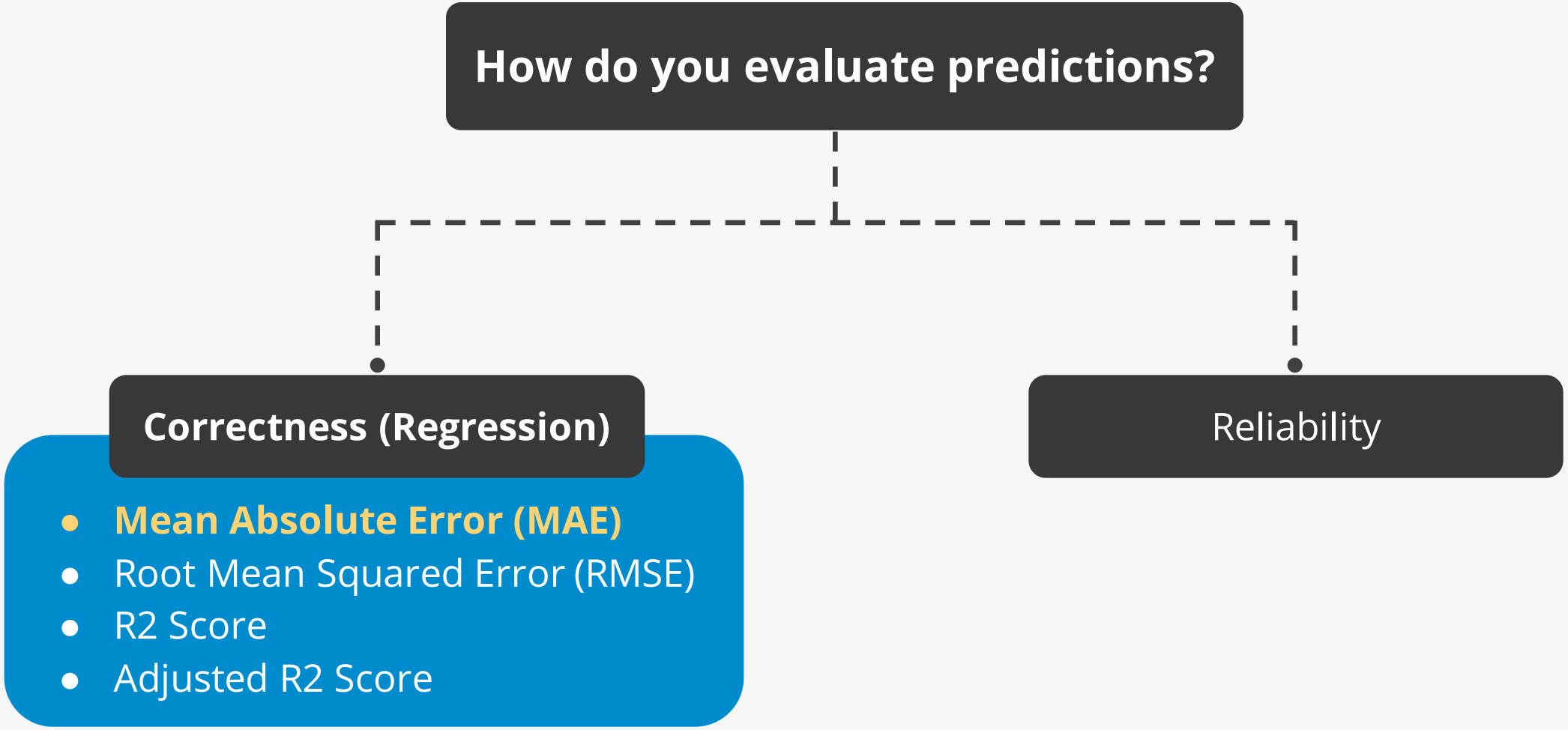
How to Evaluate Predictions?



How to Evaluate Predictions?

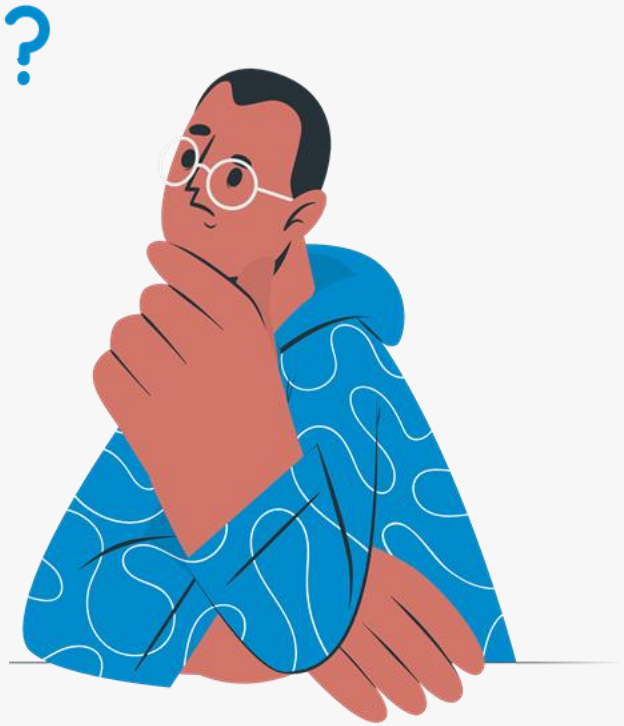


Mean Absolute Error (MAE)

MAE measures the average magnitude of the errors in a set of predictions without considering their direction.

Disadvantages of Mean Absolute Error are:

1. Not intuitive to compare ML models.
2. Does not punish large errors.



Root Mean Squared Error (RMSE)

Root Mean Squared Error (RMSE)

SKU_ID	Actual Subscribers	Predicted Subscribers
SKU2099	3231	3110
SKU1783	3821	3804
SKU6547	4005	4097
SKU0023	3343	3298
SKU5677	3560	3376

Root Mean Squared Error (RMSE)

SKU_ID	Actual Subscribers	Predicted Subscribers	Errors
SKU2099	3231	3110	121
SKU1783	3821	3804	17
SKU6547	4005	4097	-92
SKU0023	3343	3298	45
SKU5677	3560	3376	184
		SUM	**275**

Predicted Subscribers - Actual Subscribers = Error

Root Mean Squared Error (RMSE)

SKU_ID	Actual Subscribers	Predicted Subscribers	Errors	Squared Errors
SKU2099	3231	3110	121	14641
SKU1783	3821	3804	17	289
SKU6547	4005	4097	-92	8464
SKU0023	3343	3298	45	2025
SKU5677	3560	3376	184	33856
			SUM	**59275**

Root Mean Squared Error (RMSE)

SKU_ID	Actual Subscribers	Predicted Subscribers	Errors	Squared Errors
SKU2099	3231	3110	121	14641
SKU1783	3821	3804	17	289
SKU6547	4005	4097	-92	8464
SKU0023	3343	3298	45	2025
SKU5677	3560	3376	184	33856
			SUM / SSE	**59275**

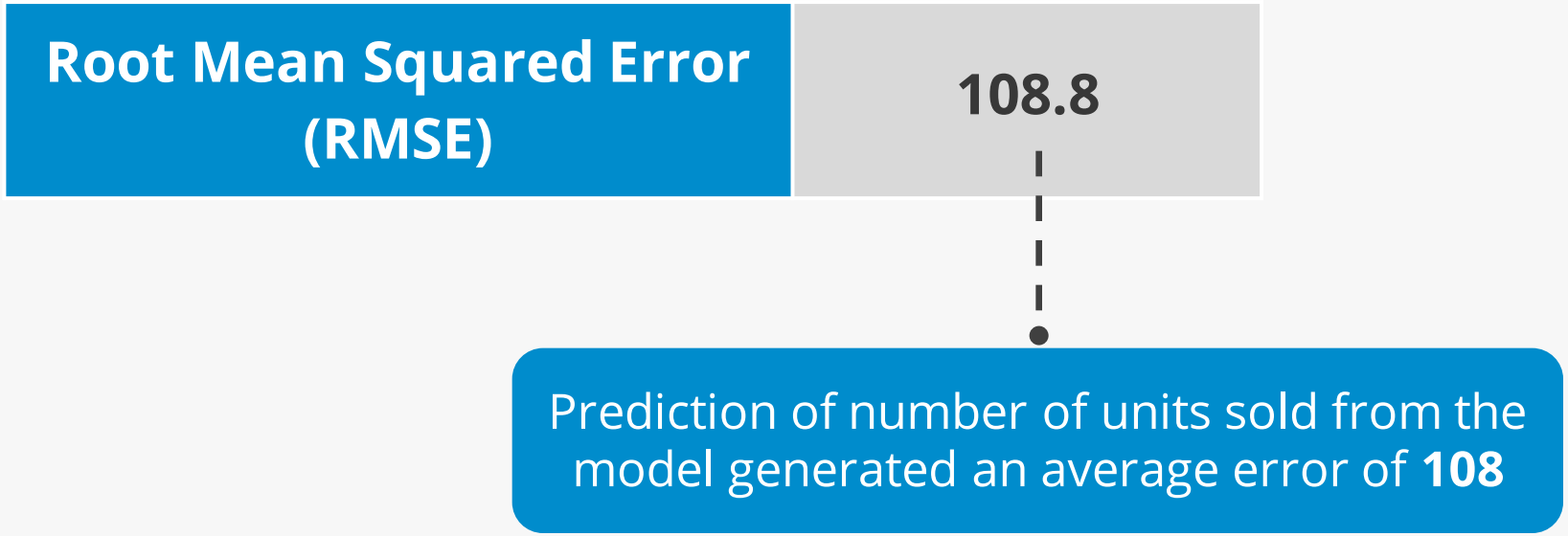
Mean Squared Error (MSE)	59275 / 5	**11855**

Root Mean Squared Error (RMSE)

SKU_ID	Actual Subscribers	Predicted Subscribers	Errors	Squared Errors
SKU2099	3231	3110	121	14641
SKU1783	3821	3804	17	289
SKU6547	4005	4097	-92	8464
SKU0023	3343	3298	45	2025
SKU5677	3560	3376	184	33856
		SUM	275	**59275**

Mean Squared Error (MSE)	59275 / 5	**11855**
Root Mean Squared Error (RMSE)	√11855	**108.8**

Root Mean Squared Error (RMSE)



Formula To Calculate RMSE

$$RMSE = \left(\left(\frac{1}{n} \right) \sum (\text{Predicted Value} - \text{Actual Value})^2 \right)$$

Note: n represents the number of datapoints