Thinking and Stopping Distances

You need to know the thinking and stopping distances in the Highway Code for the theory test.

Personally, trying to remember all numbers was a bit of a challenge so I have worked out a way to calculate all the figures. At the end of the day, some people prefer to remember the figures and others are good with maths.

Let's say you're driving down a road and a child walks out from behind a car,
Thinking distance = how far you will travel before you are able to react and hit the brake pedal
Stopping distance = how far you will travel before you subsequently stop
Overall distance = thinking distance plus stopping distance combined.

Remember that the distances shown are a general guide from years ago. The real world distances will depend on your attention (thinking distance), the road surface, the weather conditions and the condition of your vehicle at the time. In fact it has recently been shown that our reaction time is considerably slower these days due to the number of distractions we now face (phones, people, more cars on the road etc.) but the cars are better so tend to stop sooner.

Just as a pointer, the multiple choice questions only ever offer you valid figures, so if they're asking for figures relating to 20mph then it's always the smallest number; if they ask about 70mph then it's the largest number. In theory, this means that you would only need to learn figures for 30, 40, 50 and 60mph! Cool huh?

Here are the figures (metres are fine as the questions always show metres and feet).

Speed	Thinking Distance	Braking Distance	Overall Distance
20mph (32kph)	6m	6m	12m
30mph (48kph)	9m	14m	23m
40mph (64kph)	12m	24m	36m
50mph (80kph)	15m	38m	53m
60mph (96kph)	18m	55m	73m
70mph (112kph)	21m	75m	96m

The Calculation

Finger	Speed	Thinking Distance	Braking Distance	Overall Distance
		Starting figure	**Column 1**	**Column 2**
1	20mph (32kph)	6m	6m	12m
2	30mph (48kph)	9m	14m	23m
3	40mph (64kph)	12m	24m	36m
4	50mph (80kph)	15m	38m	53m
5	60mph (96kph)	18m	55m	73m
6	70mph (112kph)	21m	75m	96m

I remember:

That the speed starts at 20mph and stops at 70mph in 10mph increments

There's a multiplier that increases by 0.5 each time

The magic number I need is 3 to give me my starting figure.

How to do It

I need a *starting figure* (AKA Thinking Distance) and this is obtained thus:

Take the first digit of the speed i.e. 4 for 40mph.

Multiply it by the magic number of 3 to give you your **starting figure of 12m**.

After this I need to calculate the figures for the remaining 2 columns.

At 20mph, column 1 (braking distance) starts at a multiplier of 1 and column 2 (overall distance) starts at a multiplier of 2.

Each increase in mph increases the multiplier by 0.5.

I need to calculate figures for 40mph so I whip out my fingers and start counting on them:

20 = Finger 1

30 = Finger 2

40 = Finger 3

For column 1 (braking distance)

Finger 1 = 1 x multiplier

Finger 2 = 1.5 x multiplier

Finger 3 = 2 x multiplier

My starting figure was 12m, my multiplier is 2 therefore the **braking distance is 24m**

For column 2 (overall distance)

Finger 1 = 2 x multiplier

Finger 2 = 2.5 x multiplier

Finger 3 = 3 x multiplier

My starting figure was 12m, my multiplier is 3 therefore the **overall distance is 36m**

If you get a half number then round it up.

On the theory test you are offered multiple choice therefore always go for the number that's nearest to your calculation!!

Thinking distance

Speed	Multiplier	Magic number	Thinking Distance
20	2	3	6
30	3	3	9
40	4	3	12
50	5	3	15
60	6	3	18
70	7	3	21

Braking distance (column 1 therefore a starting multiplier of 1)

Finger	Speed	Thinking	Multiplier	Braking	Rounded	Actual
1	20	6	1	6	6	6
2	30	9	1.5	13.5	14	14
3	40	12	2	24	24	24
4	50	15	2.5	37.5	38	38
5	60	18	3	54	54	55
6	70	21	3.5	73.5	74	75

Overall distance (column 2 therefore a starting multiplier of 2)

Finger	Speed	Thinking	Multiplier	Overall	Rounded	Actual
1	20	6	2	12	12	12
2	30	9	2.5	22.5	23	23
3	40	12	3	36	36	36
4	50	15	3.5	52.5	53	53
5	60	18	4	72	72	73
6	70	21	4.5	94.5	95	96