HP-35s Calculator Program –

Sight Distance & Acceleration

Author: J. E. Charalambides

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Line	Instruction	Process	User Instruction
S001	LBL R	Establishing the library (R goes for Rational Method)	
S002	SIGHT DISTANCE	Title	Key in using EQN, RCL S, RCL I, etc
S003	PSE	Short Pause	
S004	ENTRY SLOPE		
S005	PSE	Short Pause	
S006	INPUT I	Input the slope at entry	
S007	EXIT SLOPE		
S008	PSE		
S009	INPUT J	Input the slope at exit	
S010	-	Calculating the grade difference	
S011	x^2		
S012	√x		
S013	STO A	Storing the grade difference on variable A	
S014	GRADE DIFFERENC		
S015	PSE		
S016	VIEW A	Viewing the value of grade difference	
S017	Clx		
S018	EYE LEVEL		
S019	PSE		
S020	3.5		
S021	STO Q	Storing default eye level of driver in variable Q	
S022	INPUT Q	Input the eye level of driver (if different from default)	
S023	OBSTRCT HEIGHT		
S024	PSE		
S025	INPUT O	Input the height of an obstruction	
S026	DECELERATION		
S027	PSE		
S028	11.2		
S029	STO D		
S030	INPUT D	Input a value of deceleration if other than default 11.2	
S031	0.9317		
S032	×		
S033	STO X		
S034	RCL I		
S035	0.3		
S036	×		
S037	+		
S038	1/x		
S039	VELOCITY		
S040	PSE		
S041	INPUT V	Input the velocity of the vehicle	
S042	x^2		
S043	×		
S044	1.47		
S045	RCL V		
S046	×		
S047	REACT TIME		
S048	PSE		
S049	2.5		
S050	STO T		
S051	Clx		
S052	R↓		
S053	INPUT T	Input the reaction time if other than default 2.5 sec.	
S054	×		
S055	STO Z		
S056	+		
S057	STO R		
S058	ENTRY SSD	Stopping Sight Distance	
S059	PSE		
S060	VIEW R	Viewing the Stopping Sight Distance	
S061	RCL J		

S062	0.3		
S063	×		
S064	RCL X		
S065	+		
S066	1/x		
S067	RCL V		
S068	x^2		
S069	×		
S070	RCL Z		
S071	+		
S072	STO E		
S073	EXIT SSD		
S074	PSE		
S075	VIEW E	Viewing the Exit Stopping Sight Distance	
S076	RCL V		
S077	x^2		
S078	RCL X		
S079	÷		
S080	RCL Z		
S081	+		
S082	STO S		
S083	SSD ON FLAT		
S084	PSE		
S085	VIEW S	Viewing the Stopping Sight Distance on 0% slope	
S086	RCL I		
S087	RCL J		
S088	x≥y?		
S089	GRTO S137		
S090	CREST CURVE		
S091	PSE		
S092	IS IT PASSING		
S093	PSE		
S094	INPUT Y	1 if Yes, 0 if No	
S095	x=0?		
S096	GTO S114		
S097	RCL A		
S098	INPUT S		
S099	x^2		
S100	2800		
S101	÷		
S102	STO L		
S103	RCL S		
S104	x≤y?		
S105	GTO S208		
S106	2		
S107	×		
S108	2800		
S109	RCL A		
S110	÷		
S111	-		
S112	STO L		
S113	GTO S208		
S114	IS IT STOPPING		
S115	PSE		
S116	INPUT Y	1 if Yes, 0 if No	
S117	x=0?		
S118	GTO S092		
S119	RCL S		
S120	x^2		
S121	RCL A		
S122	×		
S123	2158		
S124	÷		
S125	STO L		
S126	RCL S		
S127	x≤y?		
S128	GTO S208		
S129	2		
S130	×		

S131	2158	
S132	RCL A	
S133	÷	
S134	-	
S135	STO L	
S136	GTO S208	
S137	SAG CURVE	
S138	PSE	
S139	OVHEAD OBSTACL	
S140	PSE	
S141	INPUT C	Input 1 if there is an overhead obstacle, 0 if no obstacle
S142	x=0?	
S143	GTO S179	
S144	RCL Q	
S145	RCL O	
S146	+	
S147	2	
S148	÷	
S149	+/-	
S150	+	
S151	STO M	
S152	800	
S153	×	
S154	1/x	
S155	RCL A	
S156	×	
S157	IS SIGHT GIVEN	
S158	PSE	
S159	INPUT S	Input the value of sight
S160	x^2	
S161	×	
S162	STO L	
S163	RCL S	
S164	x≤y?	
S165	GTO S208	
S166	RCL M	
S167	800	
S168	×	
S169	RCL A	
S170	÷	
S171	+/-	
S172	RCL S	
S173	2	
S174	×	
S175	+	
S176	STO L	
S177	STOP	
S178	GTO S208	
S179	RCL A	
S180	RCL V	
S181	x^2	
S182	×	
S183	3.5	
S184	RCL V	
S185	×	
S186	400	
S187	+	
S188	1/x	
S189	×	
S190	STO L	
S191	STOP	
S192	RCL S	
S193	x≤y?	
S194	GTO S208	
S195	2	
S196	×	
S197	3.5	
S198	RCL V	
S199	×	

S200	400	
S201	+	
S202	RCL A	
S203	÷	
S204	+/-	
S205	+	
S206	STO L	
S207	STOP	
S208	LENGTH OF CURVE	
S209	PSE	
S210	VIEW L	Viewing the length of the curve
S211	STOP	
S212	3.75	
S213	STO H	
S214	INPUT I	
S215	INPUT J	
S216	-	
S217	x^2	
S218	√x	
S219	1/x	
S220	RCL H	
S221	×	
S222	INPUT L	
S223	×	
S224	8	
S225	×	
S226	√x	
S227	10	
S228	×	
S229	STO S	
S230	RCL L	
S231	x≥y?	
S232	GTO S248	
S233	RCL I	
S234	RCL J	
S235	-	
S236	x^2	
S237	√x	
S238	1/x	
S239	4	
S240	×	
S241	RCL H	
S242	×	
S243	RCL L	
S244	2	
S245	÷	
S246	+	
S247	STO S	
S248	S DIST	
S249	PSE	
S250	VIEW S	Viewing Sight Distance under obstruction
S251	STOP	
S252	RTN	

A program to calculate Sight distance and Acceleration/Deceleration in Transportation Engineering