

TMV125 V/AT, HT 10: Rekommenderade övningsuppgifter.

Avsnitt	Instuderingsuppgifter	Träningsuppgifter	Teoretiska uppgifter
SM1 1.8	6ab, 7ab, 9abc, 11c, 12ac	4b, 8c, 9df, 10ac, 12ef, 13abcd, 14c, 15abc	
SM2 5.3		1bc (sista två)	
RA P1	16, 17, 18, 28, 30, 41	19, 20, 23, 24, 25, 26, 29, 31, 38, 40, 44, 45	43
RA P2	8, 9, 12, 23		
RA P3	6, 12, 20, 37	7, 8, 16, 42, 46, 48	
RA P4	6, 7, 11, 13	8, 26, 37	45
RA P5	6, 7cd, 9, 24	27, 32	33, 35
RA P6	2, 8	5, 13, 17, 18	
RA P7	1, 3, 5, 7, 9, 19, 21, 31, 43	23, 25, 27, 29, 45, 51	13, 15, 17, 53, *54
RA App. 1	1, 5, 9, 13, 17, 19, 23, 25		44, 48 Extra 1
RA App. 1	29, 31, 33, 35, 37 41, 54		
DL 1.1	PP3, 1	12, 13, 15	19
DL 1.2	1, 15	7, 11, 13	25, 26, Extra 2
RA 10.1	3, 5	7, 8, 25	
RA 10.2	1, 3, 13	10, 14, 23, 24	19
RA 10.3	1, 3, 4	15, 16, 26, 27	12, 14
RA 10.4	2, 4, 5, 26, 27	7, 17, 28, 29, 30	
RA 1.1	1-4	9-11	
RA 1.2	3-6, 9, 13, 15, 31,	17, 18, 22, 25, 33,	37, 39, 67
RA 1.2	53-55, 75	34, 57, 58	
RA 1.3	35-46, 2, 3, 4, 5,	6, 8, 9, 28, 29, 33	
RA 1.3	11-14, 21, 22, 25		
RA 1.4	1-3, 8, 13, 19	17, 21, 27, 30	20, 34
RA 2.2	1-6, 11, 34, 36, 43	17, 20, 27, 47, 50	25
RA 2.3	1, 5, 9, 13, 17, 21, 25, 34, 42, 45	29, 31, 46	52
RA 2.4	1, 5, 13, 33,	10, 17, 24, 25, 35, 38	
RA 2.5	4, 7, 12, 16, 20, 25, 29, 41	45, 48, 53	58
RA 2.6	1, 3, 9	15	28, 29, 30
RA 2.7	6, 11, 21, 26	16, 31, 36	
RA 2.8	8, 11, 14		4, 6, 18
RA 2.9	1, 3, 5, 10	17	
RA 3.1	3, 4, 11	21	29, 34
RA 3.3	3, 5, 7, 8, 11, 13, 15, 21	17, 37, 43, 46, 52, 56, 59, 61	
RA 3.3	30, 33, 36		
RA 3.4	1, 3, 5, 6, 8	11, 16	
RA 3.5	2, 3, 7, 13, 15, 19, 23	40(även $h(x) = \arctan(\tan(x))$)	
RA 3.6	2	7abd	
RA 4.1	1	6, 13, 20	37
RA 4.2	1	9, 21, 22, 23	26*, 27*
RA 4.3	3, 4	15	33
RA 4.4	2, 7, 12	22, 27, 32, 37, 42, 46	48
RA 4.5	1, 9	10, 17, 22	41
RA 4.6	1, 2, 3, 5	10, 15, 21, 24	
RA 4.6		Extra övningar kommer	
RA 4.8	1, 3, 7	18, 21, 28, 39, 40, 49	

Extra övningar

1. Ange $\sqrt{3+4i}$ på formen $a+ib$ utan att använda trigonometriska uttryck.
2. För vilka värden på a har ekvationssystemet

$$\begin{cases} x_1 + ax_2 + x_3 &= 1 \\ ax_1 + x_2 + x_3 &= a+1 \\ x_1 - x_2 + x_3 &= a+2 \end{cases}$$

mer än en lösning? Ange för alla sådana a -värden den fullständiga lösningen till systemet.

Facit

1. $\sqrt{3+4i} = 2+i$ (principalvärdet av kvadratroten enligt definitionen i Adams sid A8).
2. För $a = -1$ finns lösningarna

$$\begin{cases} x_1 &= \frac{1}{2} + t \\ x_2 &= t \\ x_3 &= \frac{1}{2} \end{cases}$$

För $a = 1$ saknas lösning.