

TMV125 V/AT, HT 09: Rekommenderade övningsuppgifter.

Avsnitt	Instuderingsuppgifter	Träningsuppgifter	Teoretiska uppgifter
SM1 1.1		1abc, 2a	
SM1 1.2		1ad, 4a	
SM1 1.3		1cd, 2abc, 3ab	
SM1 1.5		1abc, 2acde, 3ab	
SM1 1.6		1abcde, 2abde, 3bce	
SM1 1.7		1bcfg, 2ade, 3ae	
SM1 1.8		1abd, 2abcdf	
SM1 1.9		1a, 2c, 3ab, 4ab, 5c, 6a, 7ac, 8a, 9ac	
SM1 1.9		10ac, 11ac, 12ace, 13a, 14c, 15ab	
SM1 2.1		1acd, 2b	
SM1 2.2	1acd, 3ad, 4a		
SM1 2.3	2ef	2gh, 3c	
SM1 2.4	1a	1h, 2	
SM1 2.5	2ab, 3abc, 4a	2c, 4c	
SM2 5	1abeh	1i	
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		
RA P7	1, 3, 5, 7, 9, 19, 21, 31, 43	23, 25, 27, 29, 45, 51	13, 15, 17, 53, *54
DL 1.1	PP3, 1	12, 13, 15	19
DL 1.2	1, 15	7, 11, 13	25, 26, Extra 2
RA P4	6, 7, 11, 13	8, 26, 37	45
RA P5	6, 7cd, 9, 24	27, 32	33, 35
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	
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	

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.