Question 1) What proportion of people work from 30 up to 50 hours per week? (3 points)

Solution: Run analyze-descriptive-frequencies, choose WRKHRS variable and tick „display frequency tables“ and you will get:

Hours worked weekly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	One hour	1	,1	,1	,1
	4	1	,1	,1	,2
	8	2	,1	,2	,5
	10	2	,1	,2	,7
	11	2	,1	,2	1,0
	12	2	,1	,2	1,2
	13	1	,1	,1	1,3
	15	10	,7	1,2	2,5
	16	3	,2	,4	2,9
	18	1	,1	,1	3,0
	20	17	1,2	2,1	5,1
	21	1	,1	,1	5,2
	22	1	,1	,1	5,3
	24	2	,1	,2	5,6
	25	6	,4	,7	6,3
	27	2	,1	,2	6,5
	28	2	,1	,2	6,8
	30	31	2,2	3,7	10,5
	31	1	,1	,1	10,6
	32	1	,1	,1	10,8
	35	13	,9	1,6	12,3
	36	3	,2	,4	12,7
	37	3	,2	,4	13,1
	38	12	,8	1,5	14,5
	39	1	,1	,1	14,6
	40	268	18,7	32,4	47,0
	41	4	,3	,5	47,5
	42	64	4,5	7,7	55,3
	43	12	,8	1,5	56,7
	44	8	,6	1,0	57,7
	45	78	5,4	9,4	67,1

	46	5	,3	,6	67,7
	47	5	,3	,6	68,3
	48	33	2,3	4,0	72,3
	49	1	,1	,1	72,4
	50	92	6,4	11,1	83,6
	52	3	,2	,4	83,9
	53	1	,1	,1	84,0
	54	1	,1	,1	84,2
	55	14	1,0	1,7	85,9
	56	1	,1	,1	86,0
	60	43	3,0	5,2	91,2
	64	1	,1	,1	91,3
	65	2	,1	,2	91,5
	66	1	,1	,1	91,7
	67	1	,1	,1	91,8
	68	1	,1	,1	91,9
	70	12	,8	1,5	93,3
	72	3	,2	,4	93,7
	76	1	,1	,1	93,8
	80	5	,3	,6	94,4
	90	4	,3	,5	94,9
	96 hours and more	42	2,9	5,1	100,0
	Total	827	57,6	100,0	
Missing	NAP (Code 2 or 3 in WORK;VE: Code 3 in WORK)	590	41,1		
	No answer	18	1,3		
	Total	608	42,4		
Total		1435	100,0		

Answer: 83,6 – 6,8 = 76, 8 percent

Question 2) Whats an odds of work rather than not work (ignore third category „never worked“) for man compared to women? (3 points)

Solution: Run analyze-descriptive-crosstabs, put SEX into rows and WORK into columns and you will get:

Sex of Respondent * Currently, formerly, or never in paid work Crosstabulation

Count

		Currently, formerly, or never in paid work			
		Currently in paid work	Currently not in paid work, paid work in the past	Never had paid work	Total
Sex of Respondent	Male	395	188	22	605
	Female	432	346	34	812
Total		827	534	56	1417

Answer: odds of work for men = 395/188 = 2,1

Odds of work for women = 432/346 = 1,25

Odds of work for men compared to women = 1,68

Or using shortage: (395*346) / (432*188) = 1,683

Interpretation: Odds of work for men is 1,683 times higher than the same odds for women.

Or alternatively, men have 1,683 higher odds for work compared to women.

Alternative solution: analyse-descriptive-crosstabs, put SEX into columns and WORK into rows and in statistics window ask for RISK and you will get this table with OR in the first row:

Risk Estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for Currently, formerly, or never in paid work (Currently in paid work / Currently not in paid work, paid work in the past)	1,683	1,345	2,105
For cohort Sex of Respondent = Male	1,357	1,185	1,553
For cohort Sex of Respondent = Female	,806	,737	,882
N of Valid Cases	1361		

Question 3) Test hyphotesis of equality of means of working hours per week (WRKHRS) in population of men and women (SEX) using independent t-test procedure (4 points in total).

Subquestion 3a) What is conditional probability of getting current sample means difference?(1point) Subquestion 3b) On the basis of this probability, would you hold or reject null hyphotesis of no difference in population?(1point) Subquestion 3c) What is confidence interval for mean difference in population?(2points)

Solution: Run analyze-compare means-independent smaples t-test, put WRKHRS into test variable, put SEX into grouping variable and choose „define groups“ and type 1 for group 1 and 2 for group 2 and you will get:

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference

									Lower	Upper
Hours worked weekly	Equal variances assumed	,788	,375	3,306	825	,001	3,650	1,104	1,483	5,818
	Equal variances not assumed			3,306	818,694	,001	3,650	1,104	1,483	5,818

Answers 3a) + 3b): Conditional probability of getting sample means difference of 3,65 if null hypothesis is true is 0,001 which is so low probability that I dont believe that this sample was drawn from population where means are equal, so I reject null hypothesis.

Answer 3c): With 95 percent probability true population means difference lies between 1,483 and 5,818. So, very probably, in average men work from about 1,483 to 5,818 longer per week compared to women.