# Answers



## 1 CFA I Final Mock Exam: Ethical and Professional Standards

1	C	18461
	Rule of thumb: apply the higher of the local rules or the Code and Standards.	
2	A	18462
	This information is inside, but it does not relate to a tender offer, it has not been procured in any way and we owe no obligation of confidentiality. We may trade on the information, and should do so if it is in our clients' best interests. The only doubt would be if this information alone is not strong enough to form a basis of judgement but that is not an option here.	
3	В	18463
	Expectations of passes are not passes.	
4	В	18464
	You are only a candidate for the next level once enrolled.	
5	В	18465
	Work from internal sources need not be specifically reference. Models should be referenced, even if tweaked.	
6	A	18466
	Professor Smith is not a recognised source of information so his work should be specifically referenced. Jane is a colleague so reference need not be made to her work.	
7	В	18467
	The member must apply the stricter of the applicable law and the Code and Standards.	
8	D	18468
	There are others on the list: prospects, employers, employees and fellow members.	
9	D	18469
	A, B and C are not part of the Code of Ethics.	
10	C	18471
	It would be expected that Conrad should inform clients that he is leaving, and it is proper that he should state that he cannot discuss what he is leaving to do.	
11	В	18477
	In dealing with clients there is no need to draw specific reference to the fact some work was done by colleagues within the firm. When giving expert evidence to a court a person represents themselves and not the firm and should therefore make clear any work that is not their own.	
12	D	18478
	The Code and Standards is realistic in appreciating that while option A is heroic, D is more sensible.	
13	В	18479
	The immediate supervisor should be informed in writing. A copy of the Code and Standards would need to be presented only if the employer does not already have one. The existence of other colleagues taking CFA exams does not remove her obligations.	
14	A	18480
	Written consent of new employer, written notification to existing clients ( and prospective clients).	

15	D	18481
	It is definitely a breach. Whether the trade would be profitable or not is irrelevant as the avoiding the appearance of impropriety is as important as avoiding an improper profit.	
16	D	18482
	All compensation from outside sources should be disclosed.	
17	D	18492
	The opinions of another analyst should not outweigh your own thorough research.	
18	В	18493
	Crawling around on the floor to hear better is almost certainly 'misappropriation', similar to 'sneaking a peek' at a document.	

### 2 CFA I Final Mock Exam: Quantitative Methods

19	Α	17932
	The p-value is the smallest value of alpha for which the null hypothesis is rejected. If the p-value is greater than or equal to the significance level , the null hypothesis is not rejected.	
	If the p-value is smaller than the significance level, the null hypothesis is rejected. As the p-value in this question is 0.13, the null hypothesis is not rejected at the 5% or 10% significance level.	
20	С	17933
	The vertical axis is most likely to display the frequency of each class.	
21	C	17934
	Probability of A and B both happening = $0.5 \times 0.7 = 0.35$ Probability of A happening but not B happening = $0.5 \times 0.3 = 0.15$	
22	C	17935
	Using the binomial distribution: Probability of obtaining exactly three heads = $6 C 3 \times 0.5^3 \times 0.5^3$ (Where $6 C 3$ is number of combinations drawing 3 from 6)	
	Probability of obtaining exactly three heads = $20 \times 0.125 \times 0.125 = 0.31$	
23	A	17936
	Note that this question says least likely!!	
	A positivly skewed distribution is one with a long tail to the right hand side, that is there is a small probability of a very high value.	
	For a postively skewed distribution mean>median>mode	
24	Α	17937
	Events A and B cannot both occur with one roll of the dice, this means that they are mutually exclusive.	
	With two rolls of the dice the first throw should not effect the second and therefore the events are independent.	
25	D	17938
	A type II error is failing to reject the null hypothesis when it is actually false.	
26	C	17939
	When testing the correlation coefficient:	
	Degrees of freedom = $n-2 = 90-2 = 88$	
	T-statistic = $[r(n-2)^{1/2}]/[(1-r)^{2}] = [0.4(90-2)^{1/2}]/[(1-0.4)^{2}] = 4.09$	
27	В	17940
	The variance of B is $5.23^2 = 27.35$ The variance of A is $4.23^2 = 17.89$ Therefore variance of B:variance of A = 1.53, so variance of Bis more than 50% bigger than the variance of A.	
	Correlation coefficient = covariance/ (SD of A x SD of B) = 0.92	

28	D	17941
	A negative correlation coefficient means that the variables move in the opposite direction.	
	Coefficient of determination is correlation coefficient $^{2} = -0.7^{2} = 0.49$	
29	C	17942
	Expected return = $(0.5 \times 12) + (0.4 \times -5) + (0.1 \times 1) = 4.1\%$	
	Variance = $0.5(12 - 4.1)^2 + 0.4(-5 - 4.1)^2 + 0.1(1 - 4.1)^2 = 65.29$ Standard deviation = variance $^{1/2} = 8.08\%$	
30	D	17943
	Slope coefficients being negative are not a disadvantage of regression analysis, it merely means that the regression line is downward sloping.	
31	C	17944
	The F-test uses the regression sum of squares, not the mean regression sum.	
32	A	17945
	Outliers are observations that would significantly reduce what would otherwise be a high correlation.	

### 3 CFA I Final Mock Exam: Economics

33	В	18220
	Classicists argue that changes to aggregate demand do not affect the actual level of output.	
34	В	18222
	Increase spending and decrease tax, ie run a fiscal deficit.	
35	D	18224
	Neo classicists believe that discretionary fiscal policy is futile.	
36	A	18226
	10% of the deposit amount.	
37	D	18228
	The hoarding of money can reduce the multiplier, as would banks maintaining reserves above (not below) the minimum required.	
38	D	18229
	A, B and C are all potential problems.	
39	В	18230
	In the short term there is a small increase in prices and interest rates drop.	
40	C	18232
	The result is the same as the long run effect or the effect if fully anticipated.	
41	С	18234
	In the long run people realise that more money just means higher prices. Nothing has fundamentally affected production.	
42	A	18236
	By the 1970's most economists suggested that there was no long term trade off between inflation and unemployment as periods of high inflation (when labour was cheap) would be followed by renegotiation of employment contracts.	
43	D	18288
	Indifference curves are downward sloping due to the availability of substitutes.	
44	С	18290
	Perfect competition: large number of firms, identical products, no barriers to entry/exit.	

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### 4 CFA I Final Mock Exam: Financial Statements and Corporate Finance

45	В	17996
	Because the preference stock is cumulative basic EPS is calculated assuming a preference dividend had been paid, even though it had not. Therefore the calculation is (100,000 - 2,400)/200,000.	
46	C	17997
-	Basic EPS is (150,000 - 2,400)/200,000. Diluted EPS is (150,000 - 2400 + 10,000(1-40%))/(200,000 + 2,000) = 0.7604. But this would be anti-dilutive so the basic EPS figure stands.	
47	C	17998
	2002 ROE = 0.1 x 2 x 1.5 = 0.3 2003 ROE = 0.12 x 1.5 x 1.2 = 0.216	
48	A	17999
	2002 ROE = 0.05 x 2 x 1.5 = 0.15 2003 ROE = 0.12 x 1.5 x 1.2 = 0.216	
49	A	18000
	2002 ROE = ((0.15 x 1.2) -0.1) x 1.4 x 0.7 = 0.0784 2003 ROE = ((0.16 x 1.2) -0.11) x 1.5 x 0.7 = 0.0861	
50	C	18001
	2002 ROE = $((0.15 \times 1.2) - 0.10) \times 1.4 \times 0.7 = 0.0784$ 2003 ROE = $((0.16 \times 1.2) - 0.13) \times 1.5 \times 0.7 = 0.0651$ There is an increase in leverage at a higher interest rate as well.	
51	D	18002
	2002 ROE = ((0.13 x 1.3) -0.11) x 1.4 x 0.7 = 0.05782 2003 ROE = ((0.16 x 1.2) - 0.11) x 1.4 x 1.2 = 0.08036	
52	D	18012
	Cash conversion cycle 2002 = 365 x ((200/400) + (150/1000) - (150/400)) = 100.4 days Cash conversion cycle 2003 = 365 x ((420/1500) + (370/2300) - (240/1500)) = 102.5 days Inventory turnover 2002 = 400/200 = 2x Inventory turnover 2003 = 1500/420 = 3.57x	
53	С	18013
	Cash conversion cycle $2002 = 365 \times ((300/600) + (250/2000) - (250/600)) = 76$ days Cash conversion cycle $2003 = 365 \times ((220/1500) + (170/1800) - (240/1500)) = 29.6$ days Inventory turnover $2002 = 600/300 = 2x$ Inventory turnover $2003 = 1500/220 = 6.8x$	
54	D	18014
	Cash conversion cycle $2002 = 365 \times ((200/550) + (150/1000) - (250/550)) = 21.6$ days Cash conversion cycle $2003 = 365 \times ((220/1500) + (180/1800) - (240/1500)) = 31.6$ days Receivables processing $2002 = 1000/150 = 6.7 \times$ Receivables processing $2003 = 1800/180 = 10 \times$	
55	В	18015
	Installment sales recognizes revenue each year equal to receipts and costs as a proportion of receipts to total billings.	

56	D	18016
	This treatment is only appropriate if there is an impact on existing assets.	
57	В	18017
	Timing expenditure is an example of intertemporal smoothing.	
58	C	18018
	Earnings volatility is lower as earnings are recognized throughout the contract life. Liabilities are lower as actual billings may represent earnings rather than giving rise to liabilities.	
59	C	18019
	Cash flows are unaffected by the method used, liabilities are lower under the percentage of completion method as there are fewer unearned billings.	
60	C	18021
	Cash receipts create customer advances (a liability) and cash payments create inventory.	
61	D	18022
	Income is not covered by investing cash flow, it is CFO.	
62	D	18023
	Dividend and interest receipts are both CFO. Note, interest payments are CFO but dividend payments are CFF.	
63	C	18024
	Reduction of debt is an outflow for CFF.	
64	В	18025
	\$98,000 - book value of sold item - depn + Purchases = \$105,000 \$98,000 - \$2,000 - \$10,000 + Purchases = \$105,000	
65	C	18026
	\$108,000 - book value of sold item - depn + Purchases = \$105,000 \$108,000 - \$4,000 - \$10,000 + Purchases = \$105,000	
66	В	18029
	For example, Cash = 1000, Inventory = 2000, accounts payable = 2000. If cash is used to pay off the accounts payable the ratio increases.	
67	A	18030
	For example, Cash = 500, Inventory = 500, accounts payable = 2000. If cash is used to pay off the accounts payable the ratio decreases.	
68	В	18031
	Convert each turnover figure into days, inventory processing = 30.4 days, receivables = 45.6 days, payables = 40.6 days. Cash conversion cycle = inventory days + receivables days - payables days.	
69	D	18032
	Calculations should be performed to the nearest whole month. 200,000 + 10% is weighted fully = 220,000 50,000 given 3 months weighting = 12,500 -10,000 given 3 months weighting = -2,500 Total = 230,000	
70	В	18034
	CFO = 200 dividend receipt - 2,000 coupon paid - 8,000 salary paid + 15,000 cash collections + 4,000 receivable collection. CFI = 10,000 proceeds.	

71	D	18036
	CFO = -1,000 coupon + 200 dividend receipt - 7,000 salaries + 14,000 cash collections - 4,000 payment of suppliers. CFF = + 2,000 debt issue - 3,500 dividend.	
72	В	18039
	Balance sheet analysis favours FIFO as inventory will represent up to date costs. Income statement analysis favours LIFO as COGS will reflect current costs.	
73	В	18040
	Higher COGS as these reflect current costs, resulting in lower net income.	
74	A	18041
	A LIFO liquidation, lower COGS as these reflect old costs, resulting in higher net income.	
75	D	18042
	Cash flows are higher due to lower profits and lower taxes. Inventory will be lower leading to lower working capital.	
76	С	18043
	Since, FIFO COGS = (Beginning LIFO inventory + LIFO reserve) + Purchases - (Ending LIFO inventory + LIFO reserve), FIFO COGS = LIFO COGS - Increase in LIFO reserve.	
77	В	18044
	COGS = BI + P - EI. Therefore the errors lead to +2,000 and 2,000, that is + 4,000. Once taxed this will only understate net income by 2,400.	
78	В	18045
	Income is more variable for firms that expense as payments are an immediate expense rather than being spread. CFI is higher as there is no outflow for investing in fixed assets.	

### 5 CFA I Final Mock Exam: Portfolio Management

79	C	18582
	The correct order is:	
	Write the policy statement - this should specify the investor's goals and constraints	
	Develop an investment strategy - this should satisfy the policy statement, based on	
	current conditions	
	Implement the plan - by constructing a portfolio Monitor and update the strategy - rebalance as needed	
	· •	
80	C	18585
	Timing decisions relate to how far the manager can deviate from the stated policy weights.	
	Policy decisions relate to WHICH asset classes will be allowed in the portfolio, and what WEIGHTINGS will be normal.	
	Selection decides which securities will be purchased for the portfolio.	
	Endowment describes the funds that arise from contributions made to charitable or educational institutions.	
81	В	18593
	For portfolios to lie on the efficient frontier an increase in risk must be compensated by an increase in return.	
	Portfolio B shows a lower return but a higher risk than A.	
82	D	18598
	Using CAPM:	
	Expected rate of return = $3\% + (15 - 3) \times 1.4 = 19.8\%$	
	Market rate is 17%, therefore stock is over-priced	
83	B	18601
	Care: question asks for risk first and then return!	
	Risk = (0.7^2 x 0.18^2 + 0.3^2 x 0.07^2 + 2 x 0.7 x 0.3 x 0.18 x 0.07 x 0.61)^0.5 Risk = 13.98%	
	Return =( 0.7 x 12) + (0.3 x 6) = 10.2%	
84	В	18602
	APT is a multi factor model, that requires less assumptions than CAPM.	
	Specifically, the assumptions of CAPM NOT required by APT are:	

Investors have quadratic utility functions Security returns are normally distributed

The market portfolio is mean variance efficient

#### 6 CFA I Final Mock Exam: Asset Valuation

85	C	68
	The holder is the buyer of the option; their maximum loss is the premium that they have paid in return for the right to sell the underlying security.	
86	C	151
	The investor wants to hedge the risk of equities falling in value. Purchasing the option will allow him / her to sell shares at a pre-agreed price should the prices fall.	
87	В	156
	A and D are incorrect as the writer of an option receives a premium. C is incorrect, as it is the writer not the holder that has unlimited downside potential.	
88	D	210
	The BUYER/HOLDER of a put option has the right to sell the security to the SELLER/WRITER, who will consequently have an obligation to buy.	
89	В	2375
	The answer in A describes an American style option. European options may be exercised on their expiry dates only. Consequently, the seller will be obliged to deliver the underlying asset if the holder exercises their right to buy on that date.	
90	C	2948
	There is no geographical association with the term 'European'. They are simply options that must be exercised (or not) on a particular date, namely the expiry date. Options that are more flexible and may be exercised at any time up to and including the expiry date are called 'American' options.	
91	В	3042
	A put option is the right to sell. The owner of a put option will not exercise if the share price at maturity is higher than the strike price. If this is the case, the option will be abandoned and only the premium lost, i.e. limited losses. If the share price falls BELOW the exercise price, the holder will exercise and take a profit (the lower the share price the bigger the profit). There is a limit on the profit as the share price can fall no lower than zero.	
92	A	3046
	An out-the-money option is one without intrinsic value. Calls are OTM if the strike is ABOVE the cash price. Puts are OTM if the strike is BELOW the cash price.	
93	A	5311
	There is no geographical significance given to American (style) options. It simply refers to the fact that they can exercised at any time, up to and including the expiry date. European style options, on the other hand, can be exercised on their expiry dates only.	
94	A	6248
	The MWRR is useful when measuring a fund's return over a period when the fund has deposits and withdrawals during the period.	
95	В	6316
	Thus, the time-weighted rate of return is designed to remove the distorting effects of cash flows in/out of the fund in any one particular period.	
96	A	17082
	In an exchange for physical transaction there must always be a physical component.	

97	D g = RR x ROE	18141
	$g = 0.6 \times .15 = 0.09$	
	Gordon's growth model: $P = (0.4)/(.1209) = $13.33$ But this is a price in two years, discount back to today: $13.33/1.12^2 = $10.63$	
98	В	18142
	g = RR x ROE g = 0.4 x .15 = 0.06	
	Gordon's growth model: P = (0.5)/(.1206) = \$8.33 But this is a price in three years, discount back to today: 8.33/1.12^3 = \$5.93	
99	B P/E = (D/E)/(r-g) = 0.3/(.1208) = 7.5x	18145
100	A	18146
	EPS = (EBITDA - depreciation - amortisation - interest) (1 - t) = (16 - 3 - 1 - 3)(0.6) = 5.4	
101	D	18147
	All 3 should be used.	
102	В	18148
	Value-weighted indices tend to be biased towards price movements of higher market capitalised stocks.	
103	В	18149
	All the tests of the weak form support the hypothesis.	
104	D	18150
	There are short run profit opportunities around the listing date which fail to support the EMH.	
105	D	18410
	The money is often borrowed as probate is not granted until the bill is paid.	
106	D	18429
	All give rise to cash flow estimation problems, you would have the same problem with a floating rate bond.	
107	В	18430
	The period to the next coupon is 76/184 = 0.41304. Discount as follows: \$2.50/1.04^0.41304 + \$2.5/1.04^1.41304 + \$102.5/1.04^2.41304 = \$2.460 + \$2.365 + \$93.244	
108	С	18431
	The period to the next coupon is 72/183 = 0.39344 Discount as follows: \$4.00/1.03^0.39344 + \$4.00/1.03^1.39344 + \$104.00/1.03^2.39344 = \$3.953 + \$3.840 + \$96.897	
109	В	18432
	It is the purchase price that matters, not the original price when issued.	
110	D	18433
	A, B and C are all implicit within the YTM model.	
111	D	18434
	Longer maturities leave greater exposure to interest rate changes. High coupons mean that more of the return is being generated by coupons which will require reinvestment.	
112	D	18435
	The proper assumption would be that cash flows are assumed to be reinvested at the cash flow yield.	

113	D	18436
110	It is calculated as the difference between the YTM and a reference rate (usually LIBOR).	
	The problem is that LIBOR will probably change.	
114	D	18437
	$1.022^2 = 1.02 \times (1+r)$	
	1+r = 1.024	
	But, don't forget to annualise, $2.4\% \times 2 = 4.8\%$	
115	C	18438
	$1.03^8 = 1.02^2 x ((1+r)^6)$	
	1+r = 1.03336	
	Therefore, annualized $r = 6.67\%$	
116	Α	18439
	Callable bonds experience negative convexity at low yields.	
117	D	18440
	At high yields putable bonds will see their price yield curve bottom out as it is bounded by the exercise price. Callable bonds will behave in a similar fashion to the option free.	
118	Α	18441
	Different bonds have different effective durations at different yields. Convexity is a way of adjusting for the fact that duration is not a good predictor of price change for large yield changes.	
119	В	18442
	Option free bonds experience positive convexity, therefore the convexity effect always needs to be added to the duration effect to obtain the predicted price change.	
120	Α	20632
	An increase in interest rate volatility will increase the value of the embedded option within the callable bond and will therefore decrease its value. An increase in stock volatility will increase the price of the equity option.	