

**Sample Admission Exam**Section 1 – Elementary Mathematics

- 1) If 25 percent of an amount of money is \$500, then 10 percent of the same amount is
- a) 100                      b) 250                      c) 200                      d) 400
- 2) How many 3-digit integers greater than 100 are there in which the sum of the digits equals 3?
- a) Six                      b) Four                      c) Five                      d) Nine
- 3) If  $\log_2(5) < x < \log_2(65)$  and  $x$  is an integer, then how many different values can  $x$  have?
- a) Three                      b) Four                      c) Five                      d) Eight
- 4) If the vertices of a triangle have rectangular coordinates  $(1,1)$ ,  $(9,1)$ , and  $(9,7)$ , respectively, then the perimeter of the triangle is
- a) 10                      b) 14                      c) 24                      d) 36
- 5) For what point  $(x, y)$  on the graph of  $y = \frac{1}{2}x + 1$  does the  $x$ -coordinate equal to  $y$ -coordinate?
- a)  $(0.5, 0.5)$                       b)  $(-2, -2)$                       c)  $(-0.5, -0.5)$                       d)  $(2, 2)$
- 6) On the real number line, which of the following is halfway between  $-3.4$  and  $5.2$ ?
- a) 0.9                      b) 1.2                      c) 1.8                      d) 4.3
- 7) If one number is chosen at random from the first 1000 positive integers, what is the probability that the number chosen is a multiple of 25?
- a)  $1/40$                       b)  $4/25$                       c)  $4/100$                       d)  $25/1000$

8) If  $2a + 2b = 7$  and  $3c + 3d = 15$ , then the average (arithmetic mean) of  $a, b, c,$  and  $d$  is

- a)  $1\frac{1}{2}$                       b)  $2\frac{1}{8}$                       c) 3                      d)  $4\frac{1}{4}$

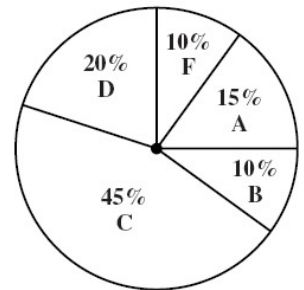
9) Which of the following is NOT a solution of the inequality  $3x - 12 > -5x + 4$  ?

- a) 1.8                      b) 2.5                      c) 2.7                      d) 3.0

10) A rectangular solid has a square base and altitude of 7. If the volume of the solid is 252, then the perimeter of the square base is

- a) 9                      b) 36                      c) 28                      d) 24

11) The circle graph shown here represents the distribution of the grades of 40 students in a certain class. How many students received F-s or D-s?



- a) 6                      b) 10                      c) 12                      d) 25

12) A square is inscribed in a circle. If the circle has radius 4, what is the perimeter of the square?

- a)  $8\sqrt{2}$                       b) 16                      c)  $16\sqrt{2}$                       d)  $32\sqrt{2}$

13) If two sides of a triangle have lengths 3.2 and 5.4 then the length of the third side must be between

- a) 2.2 and 8.6                      b) 2.2 and 5.4                      c) 0.0 and 2.2                      d) 3.2 and 5.4

14) If  $a, b, c,$  and  $d$  are consecutive even integers such that  $a < b < c < d$ , then in terms of  $a$ , the sum  $a + b + d =$

- a)  $3a$                       b)  $3a + 2$                       c)  $3a + 4$                       d)  $3a + 8$

15) Suppose  $n$  is divisible by 8 but not by 6. Then which of the following CANNOT be an integer?

- a)  $\frac{n}{2}$                       b)  $\frac{n}{3}$                       c)  $\frac{n}{4}$                       d)  $\frac{n}{5}$

16) If  $0 < st < 1$ , then which of the following can NOT be true?

- a)  $s < 1$  and  $t > 0$     b)  $s < -1$  and  $t < -1$     c)  $s > -1$  and  $t < -1$     d)  $s > 1$  and  $t < 1$

17) One man can paint a house in  $a$  days and another man in  $b$  days. If together they can do the work in  $d$  days, the equation that expresses the relation between  $a, b$  and  $d$  is

- a)  $a \cdot b = d \cdot (a + b)$     b)  $a + b = a \cdot d$     c)  $d \cdot (a + b) = 1$     d)  $a \cdot b = d$

18) Find  $(51 + 52 + \dots + 100) - (1 + 2 + \dots + 50)$ .

- a) 2500                      b) 3250                      c) 2550                      d) 2525

19) The average (arithmetic mean) of some 50 numbers is  $X$ , and the average of some other 100 numbers is  $Y$ . What is the average of all 150 numbers?

- a)  $\frac{X+Y}{2}$                       b)  $50 \cdot X + 100 \cdot Y$                       c)  $\frac{X+Y}{150}$                       d)  $\frac{50 \cdot X + 100 \cdot Y}{150}$

20) In a class of 450 students, 300 are taking a mathematics course, 260 are taking a physics course and 30 students are not taking either of these courses. How many students are taking both courses?

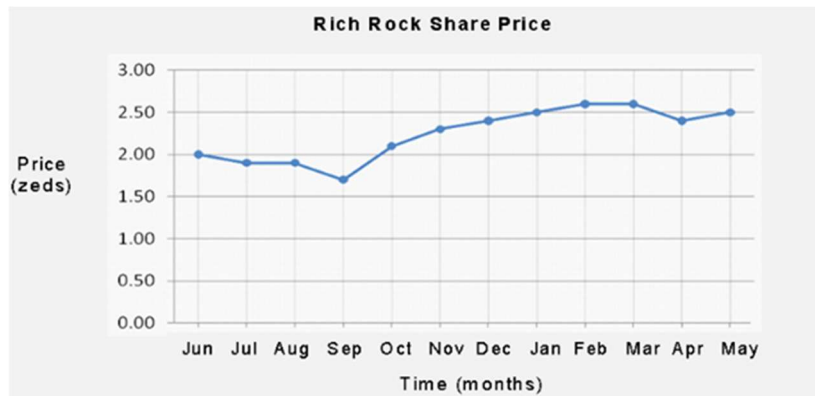
- a) 30                      b) 560                      c) 110                      d) 140

Section 2 – Basics of Finance

- 1) An example of financing activity is:
  - a. buying office supplies
  - b. buying land
  - c. obtaining a long-term loan
  - d. selling inventory
  
- 2) The main goal of the firm should be
  - a. maximization of profits
  - b. maximization of shareholders' wealth
  - c. maximization of market share
  - d. maximization of sales
  
- 3) Which of the following characteristics are common for *annuities*?
  - a. Equal payments
  - b. Payments made at equal intervals of time
  - c. All of the above
  - d. None of the above
  
- 4) Debt due within one year is considered:
  - a. Preferred
  - b. Current
  - c. Convertible
  - d. Common stock
  
- 5) The concept of *present value* relates to the idea that
  - a. the discount rate is always higher when you invest now than in the future
  - b. the discount rate is always higher when you invest in the future than now
  - c. the money you have now is worth less today than an identical amount you would receive in the future
  - d. the money you have now is worth more today than an identical amount you would receive in the future
  
- 6) The correct order of assets from the most to the least liquid is:
  - a. Cash, Inventories, Accounts receivable, Fixed assets
  - b. Inventories, Fixed assets, Accounts receivable, Cash
  - c. Cash, Accounts receivable, Inventories, Fixed assets
  - d. Fixed assets, Inventories, Cash, Accounts receivable

- 7) Debt financing obligates the company to pay
- only interest
  - dividends
  - only principal
  - interest and principal
- 8) In the event of firm being liquidated, who is paid first:
- Creditors
  - Preferred shareholders
  - Common shareholders
  - Management
- 9) What is compound interest?
- Interest paid on the principal amount
  - Interest paid on the accumulated interest of previous periods
  - Interest paid on the principal amount and the accumulated interest of previous periods
  - Interest paid only at the end of a loan term
- 10) What does the credit rating of a company measure?
- The ability of the company to service its debt
  - The strength of the company's brand
  - The ability of the company to survive during financial stress
  - Liquidity of the company
- 11) Suppose you have \$1,000 in a savings account earning 5 percent *simple* interest a year. After three years, how much will you have?
- \$1,150
  - \$1,210
  - \$ 1,158
  - \$1,364
- 12) Suppose you have \$1,000 in a savings account earning 5 percent *compound* interest a year. After three years, approximately how much will you have?
- \$1,150
  - \$1,210
  - \$ 1,158
  - \$1,364
- 13) Which of the following factors does not affect time value of money?
- Interest rates
  - Currency exchange rates
  - Holding period
  - Inflation

14) The graph below shows the price of one Rich Rock share over a 12-month period.



From wealth maximization perspective, the best month to buy the shares was

- a. June
- b. September
- c. April
- d. May

15) Refer to the graph in the preceding question. Over the year the Rich Rock share price increased by

- a. 50%
- b. 25%
- c. 20%
- d. 80%

**Answers**

<b>Section 1 – Elementary Mathematics</b>		<b>Section 2 – Basics of Finance</b>	
1	c	1	c
2	a	2	b
3	b	3	c
4	c	4	b
5	d	5	d
6	a	6	c
7	c	7	d
8	b	8	a
9	a	9	c
10	d	10	a
11	c	11	a
12	c	12	c
13	a	13	b
14	d	14	b
15	b	15	b
16	b		
17	a		
18	a		
19	d		
20	d		