Pilot Trainee Entrance Exam
I English

Part One: Vocabulary
Synonyms and Antonyms

Directions: Choose the word that is *most nearly similar or most nearly opposite* in meaning to the word in capital bold.

1. FABLE
   A. Fallible, B. fall, C. tall, D. tale

2. CARGO
   A. Freight B. Car C. tail D. Custom

3. TRANSIENT
   A. Transparent, B. temporary C. translucent D. sane

4. FELICITY
   A. sadness B. Festivity C. fall out D. Doom

5. ESTEEM
   A. main B. estimate C. respect D. fun

6. STRIPED
   A. serious B. Stubborn C. Suit D. plain

7. VERSE
   A. talk B. visor C. prose D. pose

8. INFRINGE
   A. violate B. inferior C. ring D. inform

9. TIDY
   A. unkempt B. tiny C. tense D. kept

10. SATURNINE
    A. cheerful B. Saturn C. set D. mean

11. PACIFIC
    A. pass B. aggressive C. place D. ring

12. CONSCIOUS
    A. insensible B. measure C. loud D. Remote

13. DOUBT
A. certainty B. debt C. drain D. armed

14. VILIFY
A. veal B. revile C. Pain D. rest

15. OSTENSIBLE
A. austerity B. apparent C. round D. Oust

16. GAUGE
A. measure B. Gear C. down D. Garage

17. HOLLOW
A. Hold B. Hail C. Turn D. Solid

18. YELL
A. mail B. Yellow C. real D. scream

19. SPROUT
A. Germinate B. Spare C. Peace D. Claim

20. REFUSE
A. maintains B. Dirt C. Rain D. Ream

Part Two: Comprehension One

Directions:
The passages below are followed by questions on the vocabulary, style, and meaning of the passages. After reading each passage, choose the best answer to each question. Answer all questions for each of the passages in terms of the context within the passage.

The prevalence of positive or negative feelings about *physique* is a sign of which traits are valued and appreciated by a society or by the world community. Where there is conspicuous subordination of a social group on the basis of real or *attributed* physical features, the members of a subordinated group may come to repudiate their own physical characteristics and in mixed populations even penalize those individuals who manifest the disapproved characteristics to the most marked degree. The concept of negritude in Africa is an example of a vigorous attempt to reassert the primacy, for a given group, of its own physical type. We must recognize the rising demand for the kind of world in which people can enjoy the way they look, be proud of the way their parents looked, and *look forward* to the way their children will look.

1. In its context, the word "attributed" in line 3 means most nearly
   A. praised. B. wide-spread. C. imagined. D. secondary

2. In this passage "physique" in line 1 refers to all of the following except
   A. style of dress. B. height. C. facial features. D. skin color.

3. The subject of "look forward" in line 10 is
   A. I. B. we. C. people. D. minorities.

4. The "concept of negritude" (line 6)
   A. refers to the subordination of a social group.
   B. is a national political movement.
   C. refers to people discriminating against their own race.
   D. involves pride in black physical features.

5. Which of the following comes closest to expressing the author's opinion?
   A. How one looks is of no importance to anyone.
   B. Some people like what other people hate.
   C. People with faults of their own should not criticize others.
   D. We must learn to tolerate physical differences.

Part Two: Comprehension Two

Carefully read the following passage and complete the exercise which follows it.

For almost thirty years since it first captured nearly half the word market, Japan dominated international shipbuilding. Even during the world slump, when the general decline in demand had been exacerbated by the South Korean attack on the market, Japan managed to maintain its position. The cost, however, was high. Japanese shipbuilders were forced to reduce their capacity and to cut their workforce by almost as much as their United Kingdom counterparts. This created problems for Japan's large companies, since they had committed themselves to lifetime employment for their workers. Although some of the surplus workforce was re-deployed in new industries and many retired, it was clear that the guarantee of lifetime employment was in jeopardy.

The problems stemmed from two sources. Although Japan had continued to increase its market share, the large shipbuilders were already in financial difficulties with most of them running at a loss. At the same time, the world market had contracted dramatically. The situation was worsened with the bankruptcy of a major domestic shipping company. This had resulted in a large number of surplus vessels as yet unpaid for and soon to appear on the market.

The decline in the Japanese domestic market was soon to be felt by all the world's shipbuilders as Japan decided to attempt to maintain its output levels further increasing its share of the world market.

Comprehension (Multiple Choices)
Complete the following statements by selecting the correct alternatives.

1. The slump created problems for Japanese companies because…….
   A. They found it difficult to absorb surplus workforce
   B. They had to cut capacity
   C. There was a demand for unpaid vessels
   D. Employees were guaranteed life time employment

2. One of the origins of the problems experienced by the Japanese was that too many contracts had been concluded on the world market
    A. Large vessels were available on the world market
    B. Japanese shipbuilders had experienced financial difficulties
    C. Japan had not managed to increase its market share
3. The world slump in shipbuilding was …….
    A. caused by South Korea's attack on the market
    B. caused by the overall fall in demand
    C. a result of Japan's policy of lifetime employment
    D. caused by Japan's dominance of world markets
4. The decline in Japan's shipbuilding industry was ……
    A. equivalent to that in the United Kingdom
    B. happened despite the increase in their share of the world market
    C. led to cuts in shipbuilding capacity
    D. caused problems with retired people

Comprehension (Vocabulary)
The words are taken from the passage above. Which of the alternative words corresponds most closely with them? Only one alternative is correct.

1. EXACERBATE
   A. Lessen B. Reduce C. Worsen D. Cause

2. IN JEOPARDY
   A. At risk B. Lost C. A threat D. An opportunity
3. CONTRACT
   A. Diminish B. expand C. relate D. common
4. SLUMP
   A. Risk B. Chance C. Boom D. Decline
5. STEM
   A. Originate B. End C. Go D. Explain
6. CAPTURED
   A. Caught B. Dominated C. Run D. Create

Part Three: Sentence Correction

In each of the sentences of this section, one portion is underlined. Beneath each sentence you will find five ways of writing the underlined part; the first of these always repeats the original, and the other four are all different. If you think the original sentence is better than any of the suggested changes, choose the first answer A; otherwise, select the best revision from the given options.

EXAMPLE

1. Heavy smoking and to overeat are activities which a heart patient must forego.
   A. Heavy smoking and to overeat
   B. Smoking heavily and to overeat
   C. To smoke heavily and overeating
   D. Heavy smoking and overeating

Because Standard English requires the same grammatical form for two units connected by and, either smoking or to overeat must be changed to gain parallelism. Among the options offered, only the form Heavy smoking and overeating is parallel, and you would mark your answer sheet D.

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1. In the smaller towns of Wisconsin, where one can quickly walk to the greening hills of Spring.
   A. where one can quickly walk
   B. where one can quickly walk
   C. where one can quickly walk,
   D. one can quickly walk
2. Coach Jones is a remarkable physical specimen: although sixty, he is as vigorous as ever.
   A. although sixty, he is as vigorous as ever.
   B. he, seeing that he is sixty, is as vigorous as ever.
   C. he is sixty, being as vigorous as ever.
   D. as vigorous as ever, he is sixty years of age.
3. The swashbuckling hero was without moral convictions, acceptable manners, and he had littleelse in his favor.
   A. Without moral convictions, acceptable manners, and he had little else in his favor.
   B. without moral convictions or acceptable manners and had little else in his favor.
   C. without moral convictions, acceptable manners or little else in his favor.
   D. without moral convictions and acceptable manners or little else in his favor.

4. One method of ending discrimination in business and industry is to demand quotas to be met by employers.
   A. to demand quotas to be met by employers.
   B. demanding employers to meet quotas.
   C. to demand that employers meet quotas.
   D. that employers be demanded to meet quotas.

5. Mr. Bole's recommendation was believed to be sufficient and that it would guarantee my getting a job.
   A. and that it would guarantee my getting a job.
   B. and that it would guarantee my getting a job.
   C. and that it would guarantee me to get a job.
   D. to guarantee my getting a job.

6. If the books have been cataloged last week, why haven't they been placed on the shelf?
   a. have been cataloged
   b. would have been cataloged
   c. was cataloged
   d. were cataloged

7. *Sabotage* came from the French *saboter*, which means"to clatter with wooden shoes (sabots)."
   a. which means " to
   b. which means, " to
   c. that means "to
   d. that means- "to
8. In studying an assignment it is wise to read it over quickly at first, than see the major points, and finally outline the material.
   a. first, than
   b. first: then
   c. first-then
   d. first, then
9. Once upon a point a time, a small person named Little Red Riding Hood initated plans for the preparation, delivery and transportation of foodstuffs to her Grandmother.
   a. and transportation of foodstuffs to her Grandmother.
   b. and transportation of food stuffs to her Grandmother.
   c. and transportation of food supplies to her Grandmother.
   d. and transportation of foodstuffs to her grandmother.
10. The setting of a story effects the story's plot.
   a. effects the story's plot
   b. effects the stories plot
   c. affect the story's plot
   d. affects the story's plot

Part Four: Verbal Reasoning Questions
Choose the correct answer from the alternatives given

1. Pedro goes either hunting or fishing every day. If it is snowing & windy then Pedro goes hunting. If it is sunny and not windy then Pedro goes fishing. Sometimes it can be snowing and sunny.

   Which of the following statements must be true?

   A. If it is not sunny and it is snowing then Pedro goes hunting.
   B. If it is windy and Pedro does not go hunting then it is not snowing.
   C. If it is windy and not sunny then Pedro goes hunting.
   D. If it is windy and sunny then Pedro goes hunting.

2. The cost of manufacturing tractors in Korea is twenty percent less than the cost of manufacturing tractors in Germany. Even after transportation fees and import taxes are added, it is still cheaper to import tractors from Korea to Germany than to produce tractors in Germany.

Which of the following assertions is best supported by this information?

   A. Labor costs in Korea are twenty percent below those in Germany.
   B. Importing tractors into Germany will eliminate twenty percent of the manufacturing jobs in Germany.
   C. The costs of transporting a tractor from Korea to Germany is more than twenty percent of the cost of manufacturing the tractor in Korea.
   D. The import taxes on a tractor imported from Korea to Germany is less than twenty percent of the cost of manufacturing the tractor in Germany.

3. In 1695 about 11,400 doctors who had treated plague sufferers died and about 23,670 doctors who had not treated plague sufferers died. On the basis of these figures, it can be concluded that it was more dangerous for doctors not to participate in the treatment of plague sufferers than it was for them to participate in it.

   Which of the following statements would cast most doubt on the conclusion above?

   A. Expressing the difference between the numbers of deaths among doctors who had treated plague sufferers and doctors who had not treated plague suffers as a percentage of the total number of deaths.
   B. Examining the death rates for doctors in the years before and after 1695.
   C. Separating deaths due to natural causes during the treatment of plague suffers from deaths caused by other causes.
   D. Comparing death rates per thousand members of each group rather than comparing total numbers of deaths.

4. There are 900 bottles to be filled. Jim and Molly working independently but at the same time take 30 minutes to fill the bottles. How long should it take Molly working by herself to fill the bottles?

   Statement 1 -

   Molly fills half as many bottles as Jim.

   Statement 2 -

   Jim would take 45 minutes by himself.

   Which of the statements above make it possible to answer the question?

   A. Statement 1 alone is sufficient, but statement 2 alone is not sufficient.

   B. Statement 2 alone is sufficient, but statement 1 alone is not sufficient.

   C. Both statements together are sufficient, but neither statement alone is sufficient.

   D. Each statement alone is sufficient.

5. Of the teams competing in the world archery championships, twenty percent are from Europe. Half as many are from the United States and one twentieth are from Africa. What fraction of teams are from neither Europe, the US or Africa.

   A. 13/20 B. 15/20 C. 13/15 D. 17/20

III. Mathematics
Choose the Best Answer and Mark on the Answer Sheet

1. Write an equation to find two consecutive multiples of 9 if their product is 486.
   A. $2x + 9 = 486$
   B. $9x(x + 9) = 486$
   C. c. $(x – 9) (x + 9) = 486$
   D. $x(x + 9) = 486$

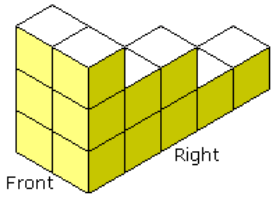
2. The number of subsets 'a' of a set containing n elements is given by $a = 2^n$. Find the number of elements in the original set which has 32 subsets.
   A. 5 B. 32 C. 232 D. 16

3. For what values of **b** the equation $x^2 - 4x + 4\mathbf{b} = 0$ has two real solutions?

   A. All values of **b** greater than 1 B. all values of **b** less than 1.
   C. 1 D. none

4. Which figure represents the front view of the three dimensional figure shown?

   A. Figure 3
   B. Figure 4
   C. Figure 2
   D. Figure 1



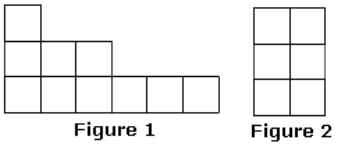
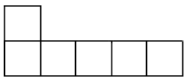
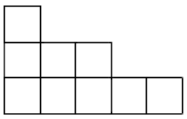

Figure 1

Figure 2


Figure 3

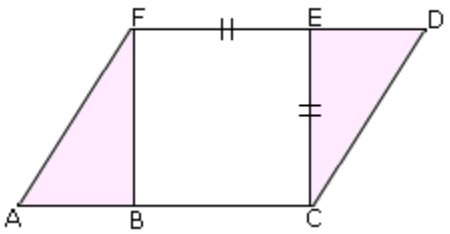

Figure 4

5. A large department store employs managers, departmental heads, clerks, and stock persons. The distribution of employees according to marital status is shown below. If an employee is selected at random, then find the probability that the selected employee is a stock person or unmarried.

Marital Status	Managers	Departmental heads	Clerks	Stock persons
Married	8	12	20	15
Unmarried	5	10	25	25

A. 105120 B. 13 C. 18 D. 23

6. what is the area of the colored region, if the area of square BCEF is $64in^2$



A. $24in^2$ B. $28in^2$ C. $70in^2$ D. $19in^2$

7. For what value of **a** will the system given below have no solutions?

$$2x + 6y = -2$$
$$-3x + \mathbf{a}y = 4$$

A. -4 B. 4 C. 9 D. -9

8. The statement, ‘’the difference of a number and its reversal of a two digit number is a multiple of 9’’ is:
   A. True. B. False. C. It may be true or false.

9. In the following simultaneous equations, find the value of x, y and z respectively.

$$\begin{cases} X + Y - Z = 4 \\ X + Y + Z = 2 \\ X - Y + 2Z = -3 \end{cases}$$

A. 1 , 0, 1 B.2, 1, 0 C. 0, 1, -1 D.1, 2, -1

10. Which equation best describes the relationship between x and y in this table?

x	**y**
0	-4
4	-20
-4	12
8	-36

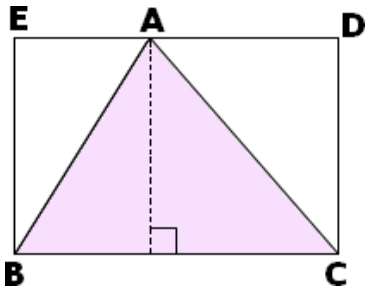
A. $y = - x/4 - 4$
B. $y = - x/4 + 4$
C. $y = - 4x + 4$
D. $y = - 4x - 4$

11. ‘’ Nine hundred and seventy seven less than a number is greater than four hundred and fifty nine’’. Which of the following choices can be the number?

A. 1234 B.1436 C. 1230 D.1437

12. calculate the area of a triangle ABC in the figure, if the area of the rectangle BCDE is $80in^2$

A. $4\ in.^2$
B. $82n.^2$
C. $160n.^2$
D. $40in.^2$



13. The base and the height of a parallelogram are 18cm, and 23cm. if its base is decreases by 50%, calculate its new area.

A. $257\ cm^2$ B. 184^2 C. 217^2 D.$20\ cm^2$

14. Two girls agree to go on a road trip together. They travel (x + 5) km on the first day. On the second day they travel 2km more than half of the distance they traveled on the first day. On the third day they drove 3 times as far as they did on the second day. If they drove 5000km total, find the value of x.

A. 1659 B.1559 C. 1600 D.1500

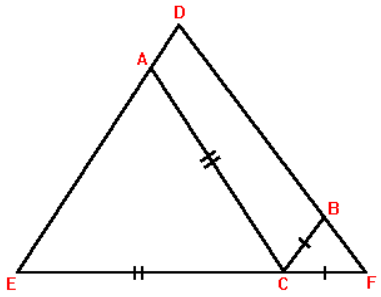
15. Betty and Tracy planned a 5000km trip in an automobile with five tires, of which four are in use at any time. They plan to interchange them so that each tire is used the same number of kilometers. What is the number of kilometers each tire will be used?

A. 4000km B. 5000km C. 2000km D. none

16. Allie has an income which is five eighths that of Basil. Allie's expenses are one-half those of Basil and Allie saved 40% of his income. What is the percentage of his income that Basil saves?

A. 20% B. 25% C. 50% D. 80%

17. If triangle DEF points A, B, and C are taken on DE,DF and EF respectively such that EC = AC and CF = BC. If angle D = 40 degrees then what does angle ACB equal (in degrees)?



A. 110 B. 100 C. 120 D. 80

18. If 3 dice are thrown, in how many ways can we obtain a sum of 15? (A toss of 6,6,3, is different from a toss of 6,3,6).

A. 10 B. 8 C. 5 D. 9

19. If a rectangular solid has sides, front and bottom faces with areas of 2x, y/2 and xy cm^2 respectively, what is the volume of the solid in centimeters cubed?

A. X^2Y^2 cm^3 B. $XYcm^3$ C. X^2Y cm^3 D. X^3Y^3 cm^3

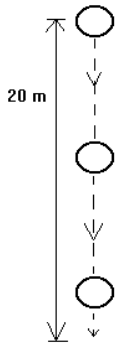
20. The integers greater than one are arranged in five columns as follows:

	2	3	4	5
9	8	7	6	
	10	11	12	13
17	16	15	14	

What column will contain the number 1000?

A. 1st column B. 2nd column C. 3rd column D. 4th column

21. What time does an object takes if released from rest at a position 20m above the ground?



A. 2.5sec B. 4sec C. 3sec D. 2sec

22. If the lines whose equations are:

$y - x - 2 = 0$
$y - 3x + 2 = 0$
$3y - kx - 4 = 0$

All pass through the same point, find the value of k.

A. 2 B. 4 C. 3 D. 5

23. A student at St. F. X. decided to become his own employer by using his car as a taxi for the summer. It costs the student $693.00 to insure his car for the 4 months of summer. He spends $452.00 per month on gas. If he lives at home and has no other expenses for the 4 months of summer and charges an average of $7.00 per fare, how many fares will he have to get to be able to pay his tuition of $3280.00?

A. 5781 B. 826 C. 3280 D. none

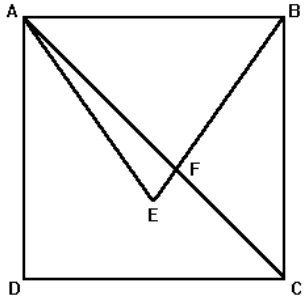
24. Four children are playing with marbles. At the end of the day one child has 4 less than half the marbles, the second child has 6 more than one fifth of the marbles, the third child has one third of what the first child had and the fourth child has 1 less than the third child. How many marbles are there?

A. 45 B. 55 C. 50 D. 60

25. In a class of four students there are four marks given to students A, B, C, and D. The average of the first two marks is 50. The average of the second and third marks is 75 and the average of the third and fourth marks is 70. What is the average of the first and fourth marks?

A. 55 B. 40 C. 45 D. 70

26. If ABCD is a square and ABE is an equilateral triangle, then what is the measure of < BFC?



A. 105 B. 120 C. 60 D. 45

27. In a class election 432 votes were cast. There were two candidates, A & B. If A won by 66 votes, how many votes did A receive?

A. 183 B. 350 C. 249 D. 382

28. The perimeter of an isosceles triangle is 50inch. The base is 11inch longer than one of the equal sides. Find the sides of the triangle.

A. (12, 23) B. (13, 24) C. (24, 35) D. (15, 26)

29. The sum of 3 hours 45 minutes and 2 hours 55 minutes is approximately what percent of a day?

A. 14% B. 16% C. 24% D. 28%

30. The outbound trip of a bus was made at 24mi/h, while the return trip was made at 30mi/h. find the one way distance fi the total running time was 4.5 hour.

A. 30mile B. 60mile C. 35mile D. 55mile

31. A piece of alloy, weighing 30kg contains 12% chromium and another piece of alloy weighing 20kg contains 7% chromium. The two pieces are melted together and a new piece of alloy is cast. The percentage of chromium in the new piece is:

A. 19% B. 5% C. 10% D. 20%

32. A man has 3.25 hours at his disposal. He can ride out on a bus at 16mile/h and walk back at 3.5mile/h. How far can he ride and still be able to return to his starting point within the allotted time?

A. 9.3mile B. 3.9mile C. 4.5mile D. 93mile

33. If a 2 digit positive integer has its digits reversed, the resulting integer differs from the original by 27. By how much do the two digits differ?

A. 3 B. 4 C. 5 D. 6

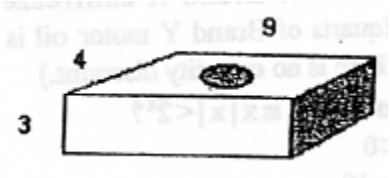
34. A factory has 500 workers, 15 percent of whom are women. If 50 additional workers are to be hired and all of the present workers remain, how many of the additional workers must be women in order to raise the percent of women employees to 20 percent?

A. 35 B. 10 C. 25 D. 30

35. If the sum of two positive integers is 24 and the difference of their squares is 48. What is the product of the two integers?

A. 108 B. 119 C. 128 D. 143

36. The rectangular block below has the length of 9, a width of 4 and a height of 3, as shown above. If a cylindrical section with a radius of 1 is removed from the solid, what is the total remaining volume of the solid?



A.$36-4\pi$ B. $108-\pi^2$ C. $108-3\pi$ D. $54+16\ \pi$

37. A train usually makes its run in 2hour25minutes at an average speed of 63mile/h. How long would it take if the speed were reduced to 51mile/h?

A. 3h 25m B. 3h 35m C. 2h 09m D. 2h 59m

38. The president of a country and 4 other dignitaries are scheduled to sit in a row on the 5 chairs represented above. If the president must sit in the center chair, how many different seating arrangements are possible for the five people?

A.4 B. 5 C. 20 D. 24

39. The length of a rectangle exceeds the width by 14ft. the perimeter is 160ft. find the dimensions

A.12 X 26 B. 33 X 47 C. 30 X 44 D. 25 X 39

40. If $17xy + 7 = 19xy$, then $4xy =$

A.2 B. 3 C. 3 ½ D. 14

Physics

Choose the Best Answer and Mark on the Answer Sheet

1. Train A starts at 4 miles South of a bridge and heads North at a constant speed of 30 miles per hour. Train B starts 6 miles North of the bridge. What velocity must Train B have so that the two trains cross the bridge at the same time?
   A. 55.1mi/hr b. 45.1mi/hr c. 35.5mi/hr d. 40.6mi/hr

2. At a track meet at Hayward Field, a runner does one quarter-mile lap in 1.25 minutes. Assuming she starts and stops at the same point, what was her average speed during this lap?
   A. 4.5m/s B. 5m/s C. 5.4m/s D. 6m/s

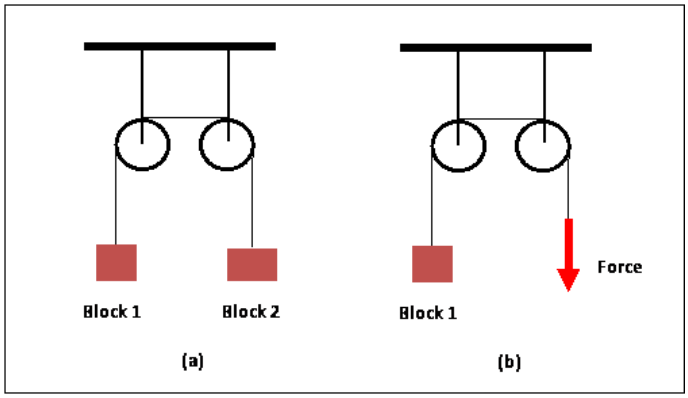
3. Referring question number two, what was her average velocity for this lap?
   A. 0m/s B. 5m/s C. 6m/s D. 4.5m/s

4. A person goes out for a bike ride to a nearby town. A record of the trip is as follows: 30 minutes at 30 km/hour, 15 minutes at 40 km/h, 5 minutes at 0 km/h for a break, and 20 minutes at 15 km/h. What is the distance the person traveled?
   A. 20km B. 30km C. 25km D. 40km

5. For question number 4, what is the average velocity?
   A. 25.7km/hr B. 35.7km/hr C. 40km/hr D. none

6. Nerve impulses typically travel through the body at about 150 miles/hour. Imagine dropping a brick from one meter onto your big toe. Compare the time it takes for the brick to fall with the time it takes for the signal to get from your toe to your brain. Assume you are 1 meter tall.(take $g = 9.8 m/s^2$)
   A. It takes 17.3 times longer for the brick to fall than it takes for the signal to reach your brain.
   B. It takes 20 times longer for the brick to fall than it takes for the signal to reach your brain.
   C. It takes 15.3 times longer for the brick to fall than it takes for the signal to reach your brain.
   D. None.

7. As part *a of* the drawing shown, two blocks are connected by a rope that passes over a set of pulleys. The block 1 has a weight of 400 N, and the block 2 has a weight of 600 N. The rope and the pulleys are massless and there is no friction. What is the acceleration of the lighter block?



A. 2.5m/s^2 B. 1.96m/s^2 C. 3.96m/s^2 D. 3m/s^2

8. A 8 kg block is at rest on a horizontal floor. If you push horizontally on the 8 kg block with a force of 20 N, it just starts to move. What is the coefficient of static friction?
   A. 0.255 B. 0.35 C. 0.45 D. 0.025
9. For the above question, a 10 kg block is stacked on top of the 8 kg block. What is the magnitude F of the force, acting horizontally on the 8 kg block as before, that is required to make the two blocks start to move?
   A. 61.74N B. 45N C. 79.38n D. 4.41N

10. A car is accelerating at 12m/s^2. Find its acceleration in Km/h^2.
    A. 155000km/h^2 B. 155700km/h^2 C. 155520km/h^2 D. 175455km/h^2

11. A car is initially traveling due north at 23 m/s. Find the velocity of the car after 4 s if its acceleration is 2m/s^2 due north.
    A. 46m/s B. 36m/s C. 15m/s D. 31m/s

12. For question number 11, Find the velocity of the car after 4 s if its acceleration is instead 2m/s^2 due south
    A. 15m/s B. 31m/s C. 36m/s D. 46m/s

13. How high can a man throw a ball if he can throw it with initial velocity 90 mph.
    A. 82.45m B. 68.95m C. 102.45m D. 72.45m

14. Mr. Letourneau is flying his broom stick parallel to the ground. He undergoes two consecutive displacements. The first is 100 km 10 degrees west of north, and the second is 120 km 50 degrees east of north. What is the magnitude of the broom stick's displacement?
    A. 27.65km B. 191km C. 40.2km D. 181km

15. It takes you 9.5 minutes to walk with an average velocity of 1.2 m/s to the north from the bus stop to museum entrance. What is your displacement?
    A. 570m B. 5415m C. 789m D. 684m

16. A speedboat increases its speed uniformly from 20 m/s to 30 m/s in a distance of 200m. Find the magnitude of its acceleration
    A. $3.25m/s^2$ B. $1.25m/s^2$ C. $2.25m/s^2$ D. $2m/s^2$

17. For question number 16, find the time it takes the boat to travel the 200-m distance
    A. 8s B. 4s C. 1.5s D. 16s

18. An aircraft has a lift-off of 120km/h. What minimum constant acceleration does the aircraft require if it is to be airborne after a takeoff run of 240m?
    A. $4m/s^2$ B. $3.3m/s^2$ C. $2.3m/s^2$ D. $5m/s^2$

19. A "moving sidewalk" in a busy airport terminal moves 1 m/s and is 200 m long. A passenger steps onto one end and walks, in the same direction as the sidewalk is moving, at a rate of 2.0 m/s relative to the moving sidewalk. How much time does it take the passenger to reach the opposite end of the walkway?
    A. 100s B. 200s C. 66.7s D. 56.7s
20. The tips of the blades in a food blender are moving with a speed of 20 m/s in a circle that has a radius of 0.06 m. How much time does it take for the blades to make one revolution?
    A. 0.19s B. 0.29s C. 0.029s D. 0.019s
21. A boy walks to the store using the following path: 0.4 miles west, 0.2 miles north, 0.3 miles east. What is his total displacement? That is, what is the length of the vector that points from his house directly to the store?
    A. 2.2miles B. 22miles C. 0.22miles D. 1.2miles
22. On a day the wind is blowing toward the south at 3m/s, a runner jogs west at 4m/s. What is the velocity of the air relative to the runner?
    A. 7m/s B. 1m/s C. 5m/s D. 5m/s
23. A coin is dropped from a 400 m high tower. What is the coin's velocity when it hits the ground and how long does it take to get there respectively?
    A. 88.2m/s, 9s B. 51.5m/s, 4.5s C. 68.2m/s, 6.9s D. 40m/s, 5s
24. While you are traveling in a car on a straight road at 90 km/hr, another car passes you in the same direction; its speedometer reads 120km/hr. What is your velocity relative to the other driver?
    A. 20km/hr B. 25km/hr C. 30km/hr D. 40km/hr

25. A boy of mass 40 kg wishes to play on pivoted seesaw with his dog of mass 15 kg. When the dog sits at 3 m from the pivot, where must the boy sit if the 6.5 me long board is to be balanced horizontally?
    A. 3.125m B.2.125m C.5m D.1.125m

Math's Answers:

1. d
2. a
3. b
4. c
5. d
6. a
7. d
8. a
9. d
10. d
11. b
12. d
13. d
14. a
15. a
16. b
17. b
18. a
19. b
20. b
21. d
22. b
23. b
24. c
25. c
26. a
27. c
28. b
29. d
30. b
31. c
32. a
33. a
34. a
35. d
36. c
37. d
38. d

39. b
40. d

physics

1. b
2. c
3. a
4. b
5. a
6. a
7. b
8. a
9. b
10. c
11. d
12. a
13. a
14. a
15. d
16. b
17. a
18. c
19. c
20. d
21. c
22. d
23. a
24. c
25. d

answers English

Answers

I. Vocabulary Section

1. d
2. a
3. b
4. a
5. c
6. d
7. c
8. a
9. a
10. a
11. b
12. a
13. a
14. b
15. b
16. a
17. d
18. d
19. a
20. b

II. **Comprehension 1 answers**.

1. C
2. A
3. C
4. E
5. D

III. Sentences correction answers.

1. D
2. A
3. B
4. C
5. D
6. D
7. A
8. D
9. D
10. D

IV. Answers to Verbal Reasoning Questions

1) B

3) D

4) D

5) D

8) A