# GMAT Test 3

37 questions – 75 minutes

**1. An investment yields an interest payment of $68 each week. If the simple annual interest rate is 7.5%, what is the amount of the investment assuming there only 48 weeks are calculated in a year?**

(a) $28,600
(b) $30,430
(c) $34,330
(d) $37,860
(e) $43,520

**2. The flying acrobatic team is made up of 120 airplanes. The team wants to form a rectangular formation with X planes in a row and Y planes in a column. If the number of airplanes in a row is no less than 4 and no more than 30, how many different combinations of rectangular shapes are possible?**

(a) 4.
(b) 5.
(c) 6.
(d) 8.
(e) 10.

**3. A storeowner estimates that the average price of type A products will increase by 25% next year and that the price of type B products will increase by 10% next year. This year, the total amount paid for type A products was $4500 and the total price paid for type B products was $8300. According to the store owner's estimate, and assuming the number of products purchased next year remains the same as that of this year, how much will be spent for both products next year?**

(a) $14,755
(b) $15,325
(c) $16,000
(d) $16,225
(e) $17,155

**4. If a cube has a volume of 64 cubic feet, what is its lateral area?**

(a) 16
(b) 24
(c) 48
(d) 64
(e) 96

**5. Is the integer X even?**
**(1) X is divisible by 7.**
**(2) X is divisible by 11.**

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**6. Is the product XY divisible by 22?**
**(1) X is divisible by 4.**
**(2) Y is divisible by 11.**

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**7. A seven-digit combination lock on a safe has zero exactly three times, does not have the digit 1 at all. What is the probability that exactly 3 of its digits are odd?**

(a) 1/2
(b) 1/3
(c) 1/6
(d) 4/16
(e) 9/16

**8. Pipe A fills a swimming pool in 4 hours. Pipe B empties the pool in 6 hours. If pipe A was opened at 8:00 am and Pipe B at 9:00 am, at what time will the pool be full?**

(a) 15:00
(b) 17:00
(c) 18:00
(d) 19:00
(e) 20:00

**9. What is the value of (a+b)?**
**(1) $a^2-b^2=133$.**
**(2) a-b=7.**

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**10. What is the value of X+Z?**
**(1) X+Y=11**
**(2) Z+Y=13**

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**11. What was the total amount John earned on his two investments?**
**(1) John received an annual interest of 5% on one investment and 13% on the other.**
**(2) John invested a total of $15,000 on both investments.**

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**12. What is the sum of the two smallest integers in a set of different positive integers?**
**(1) There are 4 integers in the set.**

**(2) The average of the integers in the set is 3.**

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**13. In a school with 5 classes, each class has 2 students less then the previous class. How many students are there in the largest class if the total number of students at school is 95?**

(a) 17
(b) 19
(c) 21
(d) 23
(e) 25

**14. A cylindrical ice cream container is half filled with ice cream. A second ice cream container, half the size of the first one is filled to three quarters of its volume with ice cream. What fraction of the total volume of the two containers is filled with ice cream?**

(a) 9/12
(b) 7/12
(c) 2/3
(d) 5/6
(e) 15/24

**15. A 48 gallon solution of salt and water is 10% salt. How many gallons of water must be added to the solution in order to decrease the salt to 8% of the volume?**

(a) 8
(b) 12
(c) 13
(d) 14
(e) 16

**16. Five years ago, the average age of the X students in the class was n. What is their average age now, if Y more students whose average age was also n five years ago, joined the class?**

(a) n + 5
(b) n - 5
(c) (x + y)/2 + 5
(d) (x + y)/2 - 5
(e) None of the above

**17. The "Racing magic" takes 120 seconds to circle the racing track once. The "Charging bull" makes 40 rounds of the track in an hour. If they left the starting point together, how many minutes will it take for them to meet at the starting point for the second time?**

(a) 3
(b) 6
(c) 9
(d) 12
(e) 15

**18. If cookies are put in a jar and the jars of cookies are packed in a carton box, how many cookies does one carton box contain?**
**(1) Every carton box is filed to half its volume.**
**(2) Twenty cookies are put in each jar, and 12 jars are put in each carton box.**

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**19. If X and Y are integers, what is the value of X?**
**(1) 6X = 4 – 9Y**
**(2) 4/3 – 3Y = 2X**

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**20. A restaurant spends one quarter of its monthly budget for rent and half of the rest for food and beverages. What percentage of the budget does the restaurant spend for food and beverages?**

(a) 23.5%
(b) 32.5%
(c) 35%
(d) 37.5%
(e) 75%

**21. If x oranges cost as much as y peaches do, and peaches cost 24 cents each, how many dollars does each orange cost?**

(a) 2400 / (xy)
(b) 24y / x
(c) 100y / 24x
(d) 24y / 100x
(e) y / 24x

**22. The sum of the volumes of three spheres, each with radius r, equals to the volume of a single sphere with radius R. What is the ratio between r and R?**

(a) 1: $\sqrt[3]{3}$
(b) 1: $\sqrt{3}$
(c) 1:2
(d) 1: $\sqrt[3]{2}$
(e) 1:3

**23. If x and y are primes, and x@y=(1/x + 1/y), is x@y < 1?**
**(1) x=y**
**(2) x+y=4**

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**24. A ball with a diameter of 10 cm is inscribed inside a rectangular box so that it touches all internal faces of the box. What is the volume trapped between the box and the ball?**
**(1) The box is a cube**

**(2) The surface area of the box is 600 $cm^2$.**

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**25. A rectangular box is inscribed inside a cylinder. Both the width and length of the box is 2 cm. What is the volume of the cylinder?**
**(1) The volume of the box is 20 $cm^3$.**
**(2) The radius of the cylinder is $\sqrt{2}$.**

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**26. A car travels a distance of 160 miles in 2 hours and 40 minutes, what is the speed of the car in miles per hour?**

(a) 54
(b) 60
(c) 84
(d) 116
(e) 120

**27. If $16^{X+7} = 2^{6X+18}$, what is x?**

(a) 9
(b) 8
(c) 7
(d) 6
(e) 5

**28. In the following sequence: [x, y, z, 5, 7, 16, 28] each number is equal to the sum of the three numbers preceding it. What is x+y?**

(a) -5
(b) -1
(c) 1
(d) 5
**(e)** 6

**29. John has $1,600 at the beginning of his trip, after spending money, he still has exactly $800 less than he spent on the trip. How much money does John still have?**

(a) $200
(b) $400
(c) $600
(d) $800
**(e)** $1,200

**30. The odds of winning first prize at the casino are 1 to 200. The odds of winning second prize are 1 to 100 and of winning third prize are 1 to 50. If no one person can win more than one of the prizes, what is the probability of not winning the first, second or third prize?**

(a) 14/200
(b) 47/50
(c) 193/200
(d) 7/200
(e) 97/200

**31. A cube has three of its faces painted half red, half white. The other three faces are completely painted white. What is the ratio between the total red painted and the total white painted areas of the cube?**

(a) 1:6
(b) 3:6
(c) 1:2
(d) 1:4.5
(e) 1:3

**32. There are *X* watermelons of 10 Kg each, and *Y* Watermelons of *R* Kg each. The average weight of a watermelon is 12 Kg. What is the value of R?**
**(1) There are five heavier watermelons more than lighter watermelons.**
**(2) The weight of the heavier watermelons in Kg is equal to their number.**

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**33. The average height of a group of children is 125 cm. If one of the children leaves, the average height drops by 2 cm. how many kids were there originally?**
**(1) The height of the child who left is twice greater than the height of the shortest child.**
**(2) The height of the child who left is 130 cm.**

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**34. *P* is the standard deviation of the heights of NBA basketball players. *R* is the standard deviation of the heights of 8 weight lifters. Is the average height of the NBA players greater than the average height of the weight lifters?**
**(1) R>P**
**(2) There are 5 basketball players that are taller than the tallest weight lifter, and 2 players that are shorter than the shortest weight lifter.**

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**35. The average monthly income of 14 younger workers is X, Together with 60 older workers, the average monthly income of the workers rose to Y. what is the average monthly income of the older workers?**
**(1) The factory's monthly budget for all salaries is 300,000$, which is 10 times the salary budget for the younger workers.**
**(2) The monthly income of all the workers is 10 times the younger workers income.**

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**36. One out of every 500 light bulbs are defected. If 2 out of every 10 defected light bulbs have a broken glass and there are 20 broken glass light bulbs in the shipment, how many light bulbs total are there in the shipment?**

(a) 2,000
(b) 5,000
(c) 10,000
(d) 50,000
(e) 52,000

**37. If *a* is an even integer and *b* is an odd integer, what must the expression $\frac{a^3b^3}{8}$ be?**
(a) Always even
(b) Always odd
(c) Always a fraction
(d) Could be a fraction
(e) Always an integer