SECTION 1
30 Minutes 25 Questions

1. If today the price of an item is $3,600, what was the price of the item exactly 2 years ago?

   (1) The price of the item increased by 10 per-cent per year during this 2-year period.
   (2) Today the price of the item is 1.21 times its price exactly 2 years ago.

2. By what percent has the price of an overcoat been reduced?

   (1) The original price was $380.
   (2) The original price was $50 more than the reduced price.

3. If the Longfellow Playground is rectangular, what is its width?

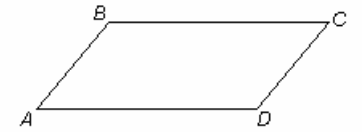
   (1) The ratio of its length to its width is 7 to 2.
   (2) The perimeter of the playground is 396 meters.

4. What is the value of x –1?

   (1) x + 1 =3
   (2) x – 1 < 3

5. Is William taller than Jane?

   (1) William is taller than Anna.
   (2) Anna is not as tall as Jane.



6. In parallelogram *ABCD* above, what is the measure of ∠ADC?

   (1) The measure of ∠A*BC* is greater than 90^o.
   (2) The measure of ∠*BCD* is 70^o

7. Is x^2 equal to xy?

(1) $x^2 - y^2 = (x + 5)(y - 5)$
(2) $x = y$

8. Was 70 the average (arithmetic mean) grade on a class test?

(1) On the test, half of the class had grades below 70 and half of the class had grades above 70.
(2) The lowest grade on the test was 45 and the highest grade on the test was 95.

9. What was John's average driving speed in miles per hour during a 15-minute interval?

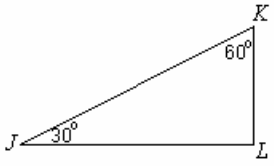
(1) He drove 10 miles during this interval.
(2) His maximum speed was 50 miles per hour and his minimum speed was 35 miles per hour during this interval.

10. Is ΔMNP isosceles?

(1) Exactly two of the angles, $\angle M$ and $\angle N$, have the same measure
(2) $\angle N$ and $\angle P$ do not have the same measure.

11. Is n an integer greater than 4?

(1) $3n$ is a positive integer.
(2) $\frac{n}{3}$ is a positive integer.



12. In ΔJKL shown above, what is the length of segment JL?

(1) $JK = 10$
(2) $KL = 5$

13. A coal company can choose to transport coal to one of its customers by railroad or by truck. If the railroad charges by the mile and the trucking company charges by the ton, which means of transporting the coal would cost less than the other?

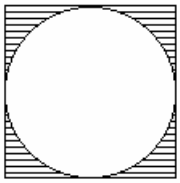
(1) The railroad charges $5,000 plus $0.01 per mile per railroad car used, and the trucking company charges $3,000 plus $85 per ton.
(2) The customer to whom the coal is to be sent is 195 miles away from the coal company.

14. Is $x - y > r - s$?

(1) x > r and $y < s$?
(2) $y = 2$, $s = 3$, $r = 5$, and $x = 6$.

15. On a certain day it took Bill three times as long to drive from home to work as it took Sue to drive from home to work. How many kilometers did Bill drive from home to work?

(1) Sue drove 10 kilometers from home to work, and the ratio of distance driven from home to work time to drive from home to work was the same for Bill and Sue that day.
(2) The ratio of distance driven from home to work time to drive from home to work for Sue that day was 64 kilometers per hour.



16. The figure above represents the floor of a square foyer with a circular rug partially covering the floor and extending to the outer edges of the floor as shown. What is the area of the foyer that is not covered by the rug?

(1) The area of the foyer is 9 square meters.
(2) The area of the rug is 2.25π square meters.

17. At a certain university, if 50 percent of the people who inquire about admission policies actually submit applications for admission, what percent of those who submit applications for admission enroll in classes at the university?

(1) Fifteen percent of those who submit applications for admission are accepted at the university.
(2) Eighty percent of those who are accepted send a deposit to the university.

18. If x and y are nonzero integers, is $\frac{x}{y}$ an integer?

(1) x is the product of 2 and some other integer.
(2) There is only one pair of positive integers whose product equals y.

19. If x is an integer, what is the value of x?

(1) $\frac{1}{5} < \frac{1}{x+1} < \frac{1}{2}$

(2) $(x-3)(x-4) = 0$

20. Is quadrilateral Q a square?

(1) The sides of Q have the same length.
(2) The diagonals of Q have the

same length.

21. If K is a positive integer less than 10 and $N = 4{,}321 + K$, what is the value of K?

(1) N is divisible by 3.
(2) N is divisible by 7.

22. A jewelry dealer initially offered a bracelet for sale at an asking price that would give a profit to the dealer of 40 percent of the original cost. What was the original cost of the bracelet?

(1) After reducing this asking price by 10 percent, the jewelry dealer sold the bracelet at a profit of $403.
(2) The jewelry dealer sold the bracelet for $1,953.

23. If n is an integer between 2 and 100 and if n is also the square of an integer, what is the value of n?

(1) n is the cube of an integer.
(2) n is even.

24. Is $x^2 - y^2$ a positive number?

(1) $x - y$ is a positive number.
(2) $x + y$ is a positive number.

25. The surface area of a square tabletop was changed so that one of the dimensions was reduced by 1 inch and the other dimension was increased by 2 inches. What was the surface area before these changes were made?

(1) After the changes were made, the surface area was 70 square inches.
(2) There was a 25 percent increase in one of the dimensions.

SECTION 2
30 Minutes 25 Questions

1. Who types at a faster rate, John or Bob?

(1) The difference between their typing rates is 10 words per minute.
(2) Bob types at a constant rate of 80 words per minute.

2. What is the average distance that automobile D travels on one full tank of gasoline?

(1) Automobile D averages 8.5 kilometers per liter of gasoline.
(2) The gasoline tank of automobile D holds exactly 40 liters of gasoline.

3. If l_1,l_2 and l_3 are lines in a plane, is l_1 perpendicular to l_3?

(1) l_1 is perpendicular to l_2.
(2) l_2 is perpendicular to l_3

4. In a certain packinghouse, grapefruit are packed in bags and the bags are packed in cases. How many grapefruit are in each case that is packed?

(1) The grapefruit are always packed 5 to a bag and the bags are always packed 8 to a case.
(2) Each case is always 80 percent full.

5. What is the value of x?

(1) $x + y = 7$
(2) $x - y = 3 - y$

6. A rectangular floor that is 4 meters wide is to be completely covered with nonoverlapping square tiles, each

with side of length 0.25 meter, with no portion of any tile remaining. What is the least number of such tiles that will be required?

(1) The length of the floor is three times the width.
(2) The area of the floor is 48 square meters.

7. If a rope is cut into three pieces of unequal length, what is the length of the shortest of these pieces of rope?

(1) The combined length of the longer two pieces of rope is 12 meters.
(2) The combined length of the shorter two pieces of rope is 11 meters.

8. A certain company paid bonuses of $125 to each of its executive employees and $75 to each of its nonexecutive employees. If 100 of the employees were nonexecutives, how many were executives?

(1) The company has a total of 120 employees.
(2) The total amount that the company paid in bonuses to its employees was $10.000.

9. What fraction of his salary did Mr. Johnson put into savings last week?

(1) Last week Mr. Johnson put $17 into savings.
(2) Last week Mr. Johnson put 5% of his salary into savings.

10. For integers *a, b,* and c, $\frac{a}{b-c}=1$,

What is the value of $\frac{b-c}{b}$?

(1) $\frac{a}{b}=\frac{3}{5}$
(2) *a* and *b* have no common factors greater than 1.

11. If the price of a magazine is to be doubled, by what percent will the number of magazines sold decrease?

(1) The current price of the magazine is $1.00.
(2) For every $0.25 of increase in price, the number of magazines sold will decrease by 10 percent of the number sold at the current

price.

12. If *J, K, L, M,* and *N* and positive integers in ascending order, what is the value of *L*?

(1) The value of *K* is 3.
(2) The value of *M* is 7.

13. If *a, b,* and *c* are integers, is the number $3(a+b)-c$ divisible by 3?

(1) *a* + *b* is divisible by 3.
(2) *c* is divisible by 3.

14. Each *M*-type memory unit will increase the base memory capacity of a certain computer by 3 megabytes. What is the base memory capacity, in megabytes of the computer?

(1) 2 *M*-type memory units will increase the computers base memory capacity by 300 percent
(2) The memory capacity of the computer after 2 *M*-type memory units are added to the base memory capacity is 1.6 times the memory capacity of the computer after 1 *M*-type memory unit is added to the base memory capacity.

15. If $xyz \neq 0$, what is the value of $\frac{x^5y^4z^2}{z^2y^4x^2}$?

(1) $x = 1$
(2) $y = 3$

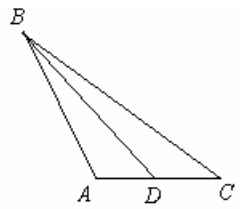
16. What fractional part of the total surface area of cube *C* is red?

(1) Each of 3 faces of *C* is exactly $\frac{1}{2}$ red.
(2) Each of 3 faces of *C* is entirely white.

17. If positive integer *x* is divided by 2, the remainder is 1. What is the remainder when *x* is divided by 4 ?

(1) $31 < x < 35$

(2) x is a multiple of 3.



18. In the figure above, D is a point on side AC of ΔABC. Is ΔABC is isosceles?

(1) The area of triangular region ABD is equal to the area of triangular region DBC.
(2) $BD \perp AC$ and $AD = DC$

19. If x is an integer, what is the value of x?

(1) $-2(x + 5) < -1$
(2) $-3x > 9$

Food	Number of	Number of Grams of Protein per Kilogram
S	2,000	150
T	1,500	90

20. The table above gives the number of calories and grams of protein per kilogram of foods S and T. If a total of 7 kilograms of S and T are combined to make a certain food mixture, how many kilograms of food S are in the mixture?

(1) The mixture has a total of 12,000 calories.
(2) The mixture has a total of 810 grams of protein.

21. If $y \neq 0$ and $y \neq -1$, which is greater, $\frac{x}{y}$ or $\frac{x}{y+1}$?

(1) $x \neq 0$
(2) $x > y$

22. Each person on a committee with 40

members voted for exactly one of 3 candidates, *F, G,* or *H.* Did Candidate *F* receive the most votes from the 40 votes cast?

(1) Candidate *F* received 11 of the votes.
(2) Candidate *H* received 14 of the votes.

23. *S* is a set of integers such that

i) if *a* is in *S,* then –*a* is in *S*, and
ii) if each of *a* and *b* is in *S*, then *ab* is in *S*.

Is –4 in *S*?

(1) 1 is in *S*.
(2) 2 is in *S*.

24. If the area of triangular region *RST* is 25, what is the perimeter of *RST*?

(1) The length of one side of *RST* is $5\sqrt{2}$.
(2) *RST* is a right isosceles triangle.

25. If *x* and *y* are consecutive odd integers, what is the sum of *x* and y?

(1) The product of *x* and *y* is negative.
(2) One of the integers is equal to –1.

SECTION 3
30 Minutes 25 Questions

1. For a certain bottle and cork, what is the price of the cork?

(1) The combined price of the bottle and the cork is 95 cents.
(2) The price of the bottle is 75 cents more than the price of the cork.

2. Last year an employee received a gross annual salary of $18,000, which was paid in equal paychecks throughout the year. What was the gross salary received in each of the paychecks?

(1) The employee received a total of 24 paychecks during the year.
(2) The employee received a paycheck twice a month each month during the year.

3. What was Bill's average (arithmetic mean) grade for all of his courses?

(1) His grade in social studies was 75, and his grade in science was 75.
(2) His grade in mathematics was 95.

4. If $x = 2y$, what is the value of xy?

(1) $x > y$
(2) $3x - 2y = 14$

5. A rectangular garden that is 10 feet long and 5 feet wide is to be covered with a layer of mulch 0.5 foot deep. At which store, *K* or *L*, will the cost of the necessary amount of mulch be less?

(1) Store *K* sells mulch only in bags, each of which costs $7 and contains 6.25 cubic feet of mulch.

(2) Store *L* sells mulch only in bags, each of which costs $40 and contains 25 cubic feet of mulch.

6. If $S = \{2, 3, x, y\}$, what is the value of $x + y$?

(1) x and y are prime numbers.
(2) 3, x, and y are consecutive odd integers in ascending order.

7. In ΔHGM, what is the length of side HM?

(1) $HG = 5$
(2) $GM = 8$

8. Claire paid a total of $1.60 for stamps, some of which cost $0.20 each, and the rest of which cost $0.15 each. How many 20-cent stamps did Claire buy?

(1) Claire bought exactly 9 stamps.
(2) The number of 20-cent stamps Claire bought was 1 more than the number of 15-cent stamps she bought.

9. If Ruth began a job and worked continuously until she finished, at what time of day did she finish the job?

(1) She started the job at 8:15 a.m. and at noon of the same day she had worked exactly half of the time that it took her to do the whole job.
(2) She was finished exactly $7\frac{1}{2}$ hours after she had started.

10. What is the value of x?

(1) $3 + x + y = 14$ and $2x + y = 15$
(2) $3x + 2y = 12 + 2y$

11. Is x an even integer?

(1) x is the square of an integer.
(2) x is the cube of an integer.

12. If John is exactly 4 years older than Bill, how old is John?

(1) Exactly 9 years ago John was 5 times as old as bill was then.
(2) Bill is more than 9 years old.

13. Before play-offs, a certain team had won 80 percent of its games. After play-offs, what percent of all its games had the team won?

(1) The team competed in 4 play-off games.
(2) The team won all of its play-off games.

14. If x and y are integers, is $xy + 1$ divisible by 3?

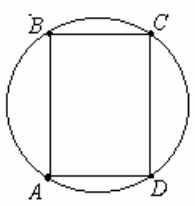
(1) When x is divided by 3, the remainder is 1.
(2) When y is divided by 9, the remainder is 8.

15. If $x \neq 0$, is $|x| < 1$?

(1) $x^2 < 1$
(2) $|x| < \frac{1}{x}$

16. The cost to charter a certain airplane is x dollars. If the 25 members of a club chartered the plane and shared the cost equally, what was the cost per member?

(1) If there had been 5 more members and all 30 had shared the cost equally, the cost per member would have been $40 less.
(2) The cost per member was 10 percent less than the cost per person on a regularly scheduled flight.



17. Rectangle $ABCD$ is inscribed in a circle as shown above. What is the radius of the circle?

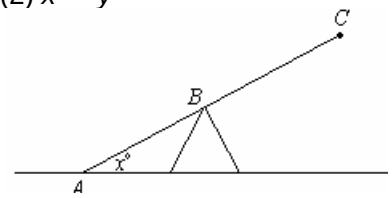
(1) The length of the rectangle is $\sqrt{3}$ and the width of the rectangle is 1.
(2) The length of are AB is $\frac{1}{3}$ of the circumference of the circle.

18. Bowls *X* and *Y* each contained exactly 2 jelly beans, each of which was either red or black. One of the jelly beans in bowl *X* was exchanged with one of the jelly beans in bowl *Y.* After the exchange, were both of the jelly beans in bowl *X* black?

(1) Before the exchange, bowl *X* contained 2 black jelly beans.
(2) After the exchange, bowl *Y* contained 1 jelly bean of each color.

19. Does $x + y = 0$?

(1) $xy<0$
(2) $x^2 = y^2$



20. In the figure above, line *AC* represents a seesaw that is touching level ground at point *A*. If *B* is the midpoint of *AC*, how far above the ground is point *C*?

(1) $x = 30$
(2) Point *B* is 5 feet above the ground.

21. If □ represents a digit in the 7-digit number 3, 62□, 215, what is the value of □?

(1) The sum of the 7 digits is equal to 4 times an integer.
(2) The missing digit is different from any of the other digits in the number.

22. Last Tuesday a trucker paid $155.76, including 10 percent state and federal taxes, for diesel fuel. What was the price per gallon for the fuel if the taxes are excluded?

(1) The trucker paid $0.118 per gallon in state and federal taxes on the fuel last Tuesday.
(2) The trucker purchased 120 gallons of the fuel last Tuesday.

23. Is x less than y?

(1) $x-y+1<0$
(2) $x-y-1<0$

24. Is quadrilateral $RSTV$ a rectangle?

(1) The measure of $\angle RST$ is 90^o
(2) The measure of $\angle TVR$ is 90^o

25. If b is an integer, is $\sqrt{a^2+b^2}$ an integer?

(1) $a^2 + b^2$ is an integer.
(2) $a^2 - 3b^2 = 0$

SECTION 4
30 Minutes 25 Questions

1. What is the value of x?

(1) x is negative.
(2) $2x = -4$

2. Did United States carriers use more than 10 billion gallons of jet fuel during 1983?

(1) United States carriers paid a total of $9.4 billion for the jet fuel used in 1983.
(2) United States carriers paid an average (arithmetic mean) of $0.90 per gallon for the jet fuel used in 1983.

3. In Country S，if 60 percent of the women aged 18 and over are in the labor force, how many million women are in the labor force?

(1) In Country S, women comprise 45 percent of the labor force.
(2) In Country S, there are no women under 18 years of age in the labor force.

4. If x and y are different positive numbers, is z between x and y?

(1) $z > 0$
(2) $z < y$

5. What percent of 16 is m?

(1) m is 5 percent of 10.
(2) 400 percent of m is 2.

6. Kay put 12 cards on a table, some faceup and the rest facedown. How many were put facedown?

(1) Kay put an even number of the cards faceup.
(2) Kay put twice as many of the cards faceup as she put facedown.

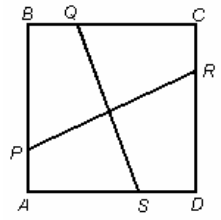
7. Is ΔRST a right triangle?

(1) The degree measure of $\angle R$ is twice the degree measure of $\angle T$.
(2) The degree measure of $\angle T$ is 30.

8. If x is a positive number, is x greater than 1?

(1) $1>\frac{1}{x}$

(2) $-\frac{1}{x}>-1$



9. The figure above shows four pieces of tile that have been glued together to form a square tile $ABCD$. Is $PR=QS$?

(1) BQ = CR = DS = AP
(2) The perimeter of $ABCD$ is 16.

10. How old is Jim?

(1) Eight years ago Jim was half as old as he is now.
(2) Four years from now Jim will be twice as old as he was six years ago.

11. What is the value of x?

(1) When x is multiplied by 8, the result is between 50 and 60.
(2) When x is doubled, the result is between 10 and 15.

12. At a certain state university last term, there were p students each of whom paid either the full tuition of x dollars or half the full tuition. What percent of the tuition paid by the p students last term was tuition from students who paid the full tuition?

(1) Of the p students, 20 percent paid the full tuition.
(2) The p students paid a total of $91.2 million for tuition last term.

13. If a bottle is to be selected at random from a certain collection of bottles, what is the probability that the bottle will be defective?

(1) The ratio of the number of bottles in the collection that are defective to the number that are not defective is 3:500.
(2) The collection contains 3,521 bottles.

14. If a grocery shopper received $0.25 off the original price of a certain product by using a coupon, what was the original price of the product?

(1) The shopper received a 20 percent discount by using the coupon.
(2) The original price was 25 percent higher than the price the shopper paid by using the coupon.

15. What was Casey's total score for eighteen holes of golf?

(1) Casey's score for the first nine holes was 13 less than his score for the last nine holes.
(2) Twice Casey's score for the last nine holes was 58 more than his score for the first nine holes.

16. What is the rate, in cubic feet per minute, at which water is flowing into a certain rectangular tank?

(1) The height of the water in the tank is increasing at the rate of 2 feet per minute.
(2) The capacity of the tank is 216 cubic feet.

17. Is the positive integer n equal to the square of an integer?

(1) For every prime number p, if p is a divisor of n, then so is p^2.
(2) $\sqrt{n}$ is an integer.

18. What is the volume of a certain cube?

(1) The sum of the areas of the faces of the cube is 54.
(2) The greatest possible distance between two points on the cube is $3\sqrt{3}$

19. What is the value of k^2-k?

(1) The value of $k - \frac{1}{k}$ is 1.
(2) The value of $2k - 1$ is $\sqrt{5}$

20. In the figure above, what is the product of the lengths of *AD* and *BC*?

(1) The product of the lengths of *AC* and *BE* is 60.
(2) The length of *BC* is 8.

21. At a business association conference, the registration fee for members of the association was $20 and the registration fee for nonmembers was $25. If the total receipts from registration were $5,500, did more members than nonmembers pay the registration fee?

(1) Registration receipts from members were $500 greater than receipts from nonmembers.
(2) A total of 250 people paid the registration fee.

22. If *x* and *y* are positive integers and *x* is a multiple of *y*, is $y = 2$?

(1) $y \neq 1$
(2) $x + 2$ is a multiple of *y*.

23. What is the value of *n*?

(1) $n(n-1)(n-2) = 0$
(2) $n^2 + n - 6 = 0$

24. If *x* and *y* are integers between 10 and 99, inclusive, is $\frac{x-y}{9}$ an integer?

(1) *x* and *y* have the same two digits, but in reverse order.
(2) The tens' digit of *x* is 2 more than the units digit, and the tens digit of *y* is 2 less than the units digit.

25. Pam and Ed are in a line to purchase tickets. How many people are in the line?

(1) There are 20 people behind Pam and 20 people in front of Ed.
(2) There are 5 people between Pam and Ed.

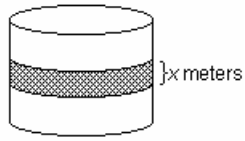
SECTIION 5
30 minutes 25 questions

1. At a certain picnic, each of the guests was served either a single scoop or a double scoop of ice cream. How many of the guests were served a double scoop of ice cream?

   (1) At the picnic, 60 percent of the guests were served a double scoop of ice cream.
   (2) A total of 120 scoops of ice cream were served to all the guests at the picnic.

2. By what percent was the price of a certain candy bar increased?

   (1) The price of the candy bar was increased by 5 cents.
   (2) The price of the candy bar after the increase was 45 cents.



3. A circular tub has a band painted around its circumference, as shown above. What is the surface area of this painted band?

   (1) $x = 0.5$
   (2) The height of the tub is 1 meter.

4. Is it true that $a > b$?

   (1) $2a > 2b$
   (2) a + c > b + c

5. A thoroughly blended biscuit mix includes only flour and baking powder. What is the ratio of the number of grams of baking powder to the number of grams of flour in the mix?

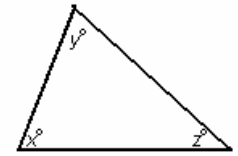
   (1) Exactly 9.9 grams of flour is contained in 10 grams of the mix.
   (2) Exactly 0.3 gram of baking powder is contained in 30 grams of the mix.

6. If a real estate agent received a commission of 6 percent of the selling price of a certain house, what was the selling price of the house?

   (1) The selling price minus the real estate agent's commission was $84,600.
   (2) The selling price was 250 percent of the original purchase price of $36,000.

7. What is the value of |x|?

   (1) x = -|x|
   (2) $x^2 = 4$



8. What is the value of z in the triangle above?

   (1) $x + y = 139$
   (2) $y + z = 108$

9. A certain bakery sells rye bread in 16-ounce loaves and 24-ounce loaves, and all loaves of the same size sell for the same price per loaf regardless of the number of loaves purchased. What is the price of a 24-ounce loaf of rye bread in this bakery?

   (1) The total price of a 16-ounce loaf and a 24-ounce loaf of this bread is $2.40.
   (2) The total price of two 16-ounce loaves and one 24-ounce loaf of this bread is $3.40.

10. If $\frac{\sqrt{x}}{y} = n$, what is the value of x?

    (1) $yn = 10$

    (2) $y = 40$ and $n = \frac{1}{4}$

11. If m and n are consecutive positive integers, is m greater than n?

(1) $m - 1$ and $n + 1$ are consecutive positive integers.
(2) m is an even integer.

12. Paula and Sandy were among those people who sold raffle tickets to raise money for Club *X*. If Paula and Sandy sold a total of 100 of the tickets, how many of the tickets did Paula sell?

(1) Sandy sold $\frac{2}{3}$ as many of the raffle tickets as Paula did.
(2) Sandy sold 8 percent of all the raffle tickets sold for Club *X*.

13. Is the integer n odd?

(1) n is divisible by 3.
(2) n is divisible by 5.

$3.2\square\triangle 6$

14. If $\square$ and $\triangle$ each represent single digits in the decimal above, what digit does $\square$ represent?

(1) When the decimal is rounded to the nearest tenth, 3.2 is the result.
(2) When the decimal is rounded to the nearest hundredth, 3.24 is the result.

15. A certain company currently has how many employees?

(1) If 3 additional employees are hired by the company and all of the present employees remain, there will be at least 20 employees in the company.
(2) If no additional employees are hired by the company and 3 of the present employees resign, there will be fewer than 15 employees in the company.

16. If x is equal to one of the numbers $\frac{1}{4}, \frac{3}{8}$, or $\frac{2}{5}$ what is the value of x?

(1) $\frac{1}{4} < x < \frac{1}{3}$
(2) $\frac{1}{3} < x < \frac{2}{5}$

17. If a,b, and c are integers, is $a - b + c$ greater than $a + b - c$?

(1) b is negative.
(2) c is positive.

18. If $x + 2y + 1 = y - x$, what is the value of x?

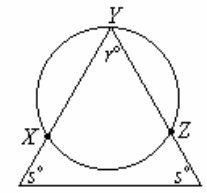
(1) $y^2 = 9$
(2) y = 3

19. If n is an integer, then n is divisible by how many positive integers?

(1) n is the product of two different prime numbers.
(2) n and 2^3 are each divisible by the same number of positive integers.

20. How many miles long is the route from Houghton to Callahan?

(1) It will take 1 hour less time to travel the entire route at an average rate of 55 miles per hour than at an average rate of 50 miles per hour.
(2) It will take 11 hours to travel the first half of the route at an average rate of 25 miles per hour.



21. What is the circumference of the circle above?

(1) The length of arc *XYZ* is 18.
(2) r = s

22. If $p,q,r,$ and s are nonzero numbers, is $(p - 1)(q - 2)^2(r - 3)^3(s - 4)^4 \geqq 0$?

(1) $q > 2$ and $s > 4$
(2) $p > 1$ and $r > 3$

23. If $\odot$ denotes a mathematical operation, does $x \odot y = y \odot x$ for all x and y?

(1) For all x and y, $x \odot y = 2(x^2 + y^2)$.
(2) For all y, $0 \odot y = 2\ y^2$

24. All trainees in a certain aviator training program must take both a written test and a flight test. If 70 percent of the trainees passed the written test, and 80 percent of the trainees passed the flight test, what percent of the trainees passed both tests?

(1) 10 percent of the trainees did not pass either test.
(2) 20 percent of the trainees passed only the flight test.

25. If n is an integer, is $\frac{n}{15}$ an integer?

(1) $\frac{3n}{15}$ is an integer.
(2) $\frac{8n}{15}$ is an integer.

SECTION 6
30 minutes 25 questions

1. If x and y are positive, what's the value of x ?

   (1) $x = 3.927y$
   (2) $y = 2.279$

2. John and David each received a salary increase. Which one received the greater salary increase?

   (1) John's salary increased 8 percent.
   (2) David's salary increased 5 percent.

3. Carlotta can drive from her home to her office by one of two possible routes. If she must also return by one of these routes, what is the distance of the shorter route?

   (1) When she drives from her home to her office by the shorter route and returns by the longer route, she drives a total of 42 kilometers.
   (2) when she drives both ways from her home to her office and back, by the longer route, she drives a total of 46 kilometers.

4. If r and s are positive integers, r is what percent of s?

   (1) $r = \frac{3}{4}s$
   (2) $r \div s = \frac{75}{100}$

5. A shirt and a pair of gloves cost total of $41.70. How much does the pair of gloves cost?

   (1) The shirt costs twice as much as the gloves.
   (2) The shirt costs $27.80.

6. What is the number of 360-degree rotations that a bicycle wheel made while rolling 100 meters in a straight line without slipping?

   (1) The diameter of the bicycle wheel, including the tire, was 0.5 meter.
   (2) The wheel made twenty 360-degree rotations per minute.

7. What is the value of the sum of a list of n odd integers?

   (1) $n = 8$
   (2) The square of the number of integers on the list is 64.

8. If a certain animated cartoon consists of a total of 17,280 frames on film, how many minutes will it take to run the cartoon?

   (1) The cartoon runs without interruption at the rate of 24 frames per second.
   (2) It takes 6 times as long to run the cartoon as it takes to rewind the film, and it takes a total of 14 minutes to do both.

9. What was the average number of miles per gallon of gasoline for a car during a certain trip?

   (1) The total cost of the gasoline used by the car for the 180-mile trip was $12.00.
   (2) The cost of the gasoline used by the car for the trip was $1.20 per gallon.

10. If x and y are positive, is $\frac{x}{y}$ greater than 1?

    (1) $xy > 1$
    (2) $x - y > 0$

11. In ΔPQR, if $PQ = x$, $QR = x + 2$, and $PR = y$, which of the three angles of ΔPQR has the greatest degree measure?

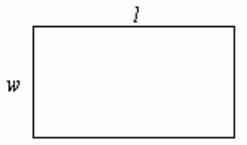
    (1) $y = x + 3$
    (2) $x = 2$

12. Is the prime number p equal to 37?

(1) $p = n^2 + 1$, where n is an integer.
(2) p^2 is greater than 200.

13. The only contents of a parcel are 25 photographs and 30 negatives. What is the total weight, in ounces, of the parcel's contents?

(1) The weight of each photograph is 3 times the weight of each negative.
(2) The total weight of 1 of the photographs and 2 of the negatives is $\frac{1}{3}$ ounce.



14. If l and w represent the length and width, respectively, of the rectangle above, what is the perimeter?

(1) $2l + w = 40$
(2) $l + w = 25$

15. What is the ratio of x to y?

(1) x is 4 more than twice y.
(2) The ratio of $0.5x$ to $2y$ is 3 to 5.

16. If x, y, and z are three integers, are they consecutive integers?

(1) $z - x = 2$
(2) $x < y < z$

17. What is the value of x?

(1) $-(x + y) = x - y$
(2) $x + y = 2$

18. A sum of $200,000 from a certain estate was divided among a spouse and three children. How much of the estate did the youngest child receive?

(1) The spouse received 1/2 of the sum from the estate, and the oldest child received 1/4 of the remainder.
(2) Each of the two younger children received $12,500 more than the oldest child and $62,500 less than the spouse.

19. If the Lincoln Library's total expenditure for books, periodicals, and newspapers last year was $35,000, how much of the expenditure was for books?

(1) The expenditure for newspapers was 40 percent greater than the expenditure for periodicals.
(2) The total of the expenditure for periodicals and newspapers was 25 percent less than the expenditure for books.

20. The symbol $\triangledown$ represents one of the following operations: addition, subtraction, multiplication, or division. What is the value of $3 \triangledown 2$?

(1) $0 \triangledown 1 = 1$
(2) $1 \triangledown 0 = 1$

21. Are the numbers $\frac{k}{4}, \frac{z}{3}$ and $\frac{r}{2}$ in increasing order?

(1) $3 < z < 4$
(2) $r < z < k$

22. In a certain group of people, the average (arithmetic mean) weight of the males is 180 pounds and of the females, 120 pounds. What is the average weight of the people in the group?

(1) The group contains twice as many females as males.
(2) The group contains 10 more females than males.

23. If $n = p + r$, where n, p, and r are positive integers and n is odd, does p equal 2?

(1) p and r are prime numbers.
(2) $r \neq 2$

24. If $y = 2^{x+1}$, what is the value of $y - x$?

(1) $2^{2x+2} = 64$
(2) $y = 2^{2x-1}$

25. If $x \neq 1$, is y equal to $x + 1$?

(1) $\frac{y-2}{x-1} = 1$
(2) $y^2 = (x + 1)^2$

SECTION 7
30 minutes 25 questions

1. The regular price for canned soup was reduced during a sale. How much money could one have saved by purchasing a dozen 7-ounce cans of soup at the reduced price rather than at the regular price?

(1) The regular price for the 7-ounce cans was 3 for a dollar.
(2) The reduced price for the 7-ounce cans was 4 for a dollar.

2. If on a fishing trip Jim and Tom each caught some fish, which one caught more fish?

(1) Jim caught $\frac{2}{3}$ as many fish as Tom.
(2) After Tom stopped fishing, Jim continued fishing until he had caught 12 fish.

3. If $5x + 3y = 17$, what is the value of x?

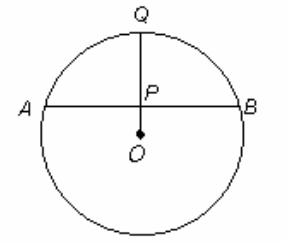
(1) x is a positive integer.
(2) $y = 4x$

4. Yesterday Nan parked her car at a certain parking garage that charges more for the first hour than for each additional hour. If Nan's total parking charge at the garage yesterday was $3.75, for how many hours of parking was she charged?

(1) Parking charges at the garage are $0.75 for the first hour and $0.50 for each additional hour or fraction of an hour.
(2) If the charge for the first hour had been $1.00, Nan's total parking charge would have been $4.00.

5. If r and s are integers, is $r + s$ divisible by 3?

(1) s is divisible by 3.
(2) r is divisible by 3.



6. What is the radius of the circle above with center *O*?

   (1) The ratio of *OP* to *PQ* is 1 to 2.
   (2) *P* is the midpoint of chord *AB.*

7. A certain 4-liter solution of vinegar and water consists of *x* liters of vinegar and *y* liters of water. How many liters of vinegar does the solution contain?

   (1) $\frac{x}{4} = \frac{3}{8}$

   (2) $\frac{y}{4} = \frac{5}{8}$

8. Is $x < 0$?

   (1) $-2x > 0$
   (2) $x^3 < 0$

9. Of the 230 single-family homes built in City *X* last year, how many were occupied at the end of the year?

   (1) Of all single-family homes in City *X*, 90 percent were occupied at the end of last year.
   (2) A total of 7,200 single-family homes in City *X* were occupied at the end of last year.

10. Does the product *jkmn* equal 1?

    (1) $\frac{jk}{mn} = 1$
    (2) $j = \frac{1}{k}$ and $m = \frac{1}{n}$

11. How many of the boys in a group of 100 children have brown hair?

    (1) Of the children in the group, 60 percent have brown hair.

(2) Of the children in the group, 40 are boys.

12. Is the perimeter of Square *S* greater than the perimeter of equilateral triangle *T*?

(1) The ratio of the length of a side of *S* to the length of a side of *T* is 4:5.
(2) The sum of the lengths of a side of *S* and a side of *T* is 18.

13. If *p* and *q* are positive integers and *pq* =24, what is the value of *p*?

(1) $\frac{q}{6}$ is an integer.

(2) $\frac{p}{2}$ is an integer.

14. If $x \neq 0$, what is the value of $(\frac{x^p}{x^q})^4$?

(1) p = q
(2) *x* = 3

15. From May 1,1960 to May 1,1975, the closing price of a share of stock *X* doubled. what was the closing price of a share of stock *X* on May 1, 1960?

(1) From May 1,1975, to May 1,1984, the closing price of a share of stock *X* doubled.
(2) From May 1,1975, to May 1,1984, the closing price of a share of stock *X* increased by $4.50.

16. If *d* is a positive integer, is $\sqrt{d}$ an integer?

(1) *d* is the square of an integer.
(2) $\sqrt{d}$ is the square of an integer.

17. If *Q* is an integer between 10 and 100, what is the value of *Q*?

(1) One of Q's digits is 3 more than the other, and the sum of its digits is 9.
(2) *Q* < 50

18. If digit *h* is the hundredths' digit in the decimal *d*=0.2*h*6, what is the value of *d*, rounded to the nearest tenth?

(1) d < $\frac{1}{4}$
(2) *h* < 5

19. What is the value of $x^2 - y^2$?

(1) $x - y = y + 2$
(2) $x - y = \frac{1}{x+y}$

20. If ·represents one of the operations +, −, and ×, is $k \bullet (\ell + m) = (k \bullet \ell) + (k \bullet m)$ for all numbers k, ℓ and *m*?

(1) k · l is not equal to l · *k* for some numbers *k*.
(2) · represents subtraction.

21. What was Janet's score on the fourth physics test she took?

(1) Her score on the fourth test was 12 points higher than her average (arithmetic mean) score on the first three tests she took.
(2) Her score on the fourth test raised her average (arithmetic mean) test score from 87 to 90.

22. If $x + y > 0$, is $x > |y|$?

(1) $x > y$
(2) $y < 0$

23. If *x* is an integer, is $(x + p)(x + q)$ an even integer?

(1) *q* is an even integer.
(2) *p* is an even integer.

24. The figure above shows the dimensions of a square picture frame that was constructed using four pieces of frame as shown. If *w* is the width of each piece of the frame, what is the area of each piece?

(1) $w = 3$ inches

(2) $PQ = \sqrt{18}$ inches

25. A total of 774 doctorates in mathematics were granted to United States citizens by American universities in the 1972-1973 school year, and *W* of these doctorates were granted to women. The total of such doctorates in the 1986-1987 school year was 362, and *w* of these were granted to women. If the number of doctorates in mathematics granted to female citizens of the United States by American universities decreased from the 1972-1973 school year to the 1986-1987 school year, was the decrease less than 10 percent?

(1) $\frac{1}{10} < \frac{w}{774} < \frac{1}{9}$

(2) $W = w + 5$

SECTION 8
30 Minutes 25 Questions

1. Committee member *W* wants to schedule a one-hour meeting on Thursday for himself and three other committee members, *X,Y,* and *Z*, Is there a one-hour period on Thursday that is open for all four members?

(1) On Thursday *W* and *X* have an open period from 9:00 a.m. to 12:00 noon.
(2) On Thursday *Y* has an open period from 10:00 a.m. to 1:00 p.m. and *Z* has an open period from 8:00 a.m. to 11:00 a.m.

2. If Jack's and Kate's annual salaried in 1985 were each 10 percent higher than their respective annual salaries in 1984, what was Jack's annual salary in 1984?

(1) The sum of Jack's and Kate's annual salaries in 1984 was $50,000.
(2) The sum of Jack's and Kate's annual salaries in 1985 was $55,000.

3. What is the value of *x*?

(1) $x + 1 = 2 - 3x$

(2) $\frac{1}{2x} = 2$

4. How many newspapers were sold at a certain newsstand today?

(1) A total of 100 newspapers were sold at the newsstand yesterday, 10 fewer than twice the number sold today.
(2) The number of newspapers sold at the newsstand yesterday was 45 more than the number sold today.

5. How much did a certain telephone call cost?

(1) The call lasted 53 minutes
(2) The cost for the first 3 minutes

was 5 times the cost for each additional minute.

6. A certain expressway has exits *J. K. L.* and *M*, in that order. What is the road distance from exit *K* to exit *L*?

(1) the road distance from exit *J* to exit *L* is 21 kilometers.
(2) The road distance from exit *K* to exit *M* is 26 kilometers.

7. Two car, *S* and *T*, each traveled a distance of 50 miles. Did car *S* use more gasoline than car *T*?

(1) Cars *S* and *T* traveled the entire distance at the rates of 55 miles per hour and 50 miles per hour, respectively.
(2) For the entire distance, car *S* traveled 20 miles per gallon of gasoline and car *T* traveled 25 miles per gallon of gasoline.

8. If *n* is a positive integer, is *n* odd?

(1) 3*n* is odd.
(2) *n* + 3 is even.

9. Does $2m - 3n = 0$

(1) $m \neq 0$
(2) $6m = 9n$

10. If $xy < 3$, is $x < 1$?

(1) $y > 3$
(2) $x < 3$

11. Each of the eggs in a bowl is dyed red, or green, or blue. If one egg is to be removed at random. what is the probability that the egg will be green?

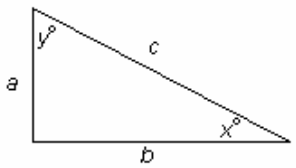
(1) There are 5 red eggs in the bowl.
(2) The probability that the egg will be blue is $\frac{1}{3}$

12. Is the average (arithmetic mean) of *x* and *y* greater than 20?

(1) The average (arithmetic mean) of 2*x* and 2*y* is 48.
(2) $x = 3y$

13. Marcia's bucket can hold a maximum of how many liters of water?

(1) The bucket currently contains 9 liters of water.
(2) If 3 liters of water are added to the bucket when it is half full of water, the amount of water in the bucket will increase by $\frac{1}{3}$.

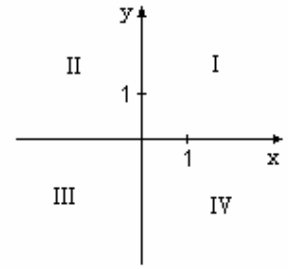


14. In the triangle above, does $a^2 + b^2 = c^2$?

(1) $x + y = 90$
(2) x = y

15. What is the value of the positive integer *n*?

(1) $n^4 < 25$
(2) $n \neq n^2$



16. If $ab \neq 0$, in what quadrant of the coordinate system above does point (*a, b*) lie?

(1) (*b, a*) lies in quadrant Ⅳ.
(2) (*a, -b*) lies in quadrant Ⅲ.

17. From 1984 to 1987, the value of foreign goods consumed annually in the United States increased by what

percent?

(1) In 1984 the value of foreign goods consumed constituted 19.8 percent of the total value of goods consumed in the United States that year.
(2) In 1987 the value of foreign goods consumed constituted 22.7 percent of the total value of goods consumed in the United States that year.

18. If *x, y*, and *z* are positive, is $x = \frac{y}{z^2}$?

(1) $z = \frac{y}{xz}$

(2) $z = \sqrt{\frac{y}{x}}$

19. If *x* and *y* are positive integers and $x^y = x^{2y-3}$, what is the value of x^y?

(1) $x = 2$
(2) $x^3 = 8$

20. If *k* and *n* are integers, is *n* divisible by 7?

(1) $n - 3 = 2k$
(2) $2k - 4$ is divisible by 7.

21. If *x* and *y* are integers and $y = |x + 3| + |4 - x|$, does *y* equal 7?

(1) $x < 4$
(2) $x > -3$

22. If $1 < d < 2$, is the tenths' digit of the decimal representation of *d* equal to 9?

(1) $d + 0.01 < 2$
(2) $d + 0.05 > 2$

23. The participants in a race consisted of 3 teams with 3 runners on each team. A team was awarded $6 - n$ points if one of its runners finished in *n*th place, where $1 \le n \le 5$. If all of the runners finished the race and if there were no ties, was each team awarded at least one point?

(1) No team was awarded more than a total of 6 points.
(2) No pair of teammates finished in consecutive places among the top five places.

24. If $x + y + z > 0$, is $z > 1$?

(1) $z > x + y + 1$
(2) $x + y + 1 < 0$

25. How many integers *n* are there such that $r < n < s$?

(1) $s - r = 5$
(2) *r* and *s* are not integers.

SECTION 9
30 Minutes 25 Questions

1. A total of 9 women and 12 men reside in the 21 apartments that are in a certain apartment building, one person to each apartment. If a poll taker is to select one of the apartments at random, what is the probability that the resident of the apartment selected will be a woman who is a student?

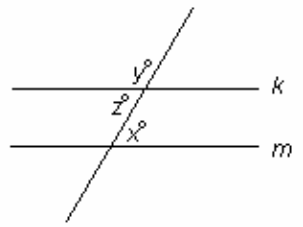
   (1) Of the women, 4 are students.
   (2) Of the women, 5 are not students.

2. Is x greater than 1.8?

   (1) $x > 1.7$
   (2) $x > 1.9$

3. Hoses X and Y simultaneously fill an empty swimming pool that has a capacity of 50,000 liters. If the flow in each hose is independent of the flow in the other hose, how many hours will it take to fill the pool?

   (1) Hose X alone would take 28 hours to fill the pool.
   (2) Hose Y alone would take 36 hours to fill the pool.

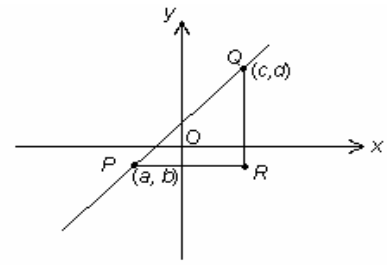


4. In the figure above, if lines k and m are parallel, what is the value of x?

   (1) $y = 120$
   (2) $z = 60$

5. If x and y are integers, what is the value of y?

   (1) $xy = 27$
   (2) $x = y^2$



6. Ir ' and QR are each parallel to one of the rectangular coordinate axes. Is the ratio of the length of QR to the length of PR equal to 1?

   (1) $c = 3$ and $d = 4$.
   (2) $a = -2$ and $b = -1$.

7. In a school election, if each of the 900 voters voted for either Edith or Jose (but not both), what percent of the female voters in this election voted for Jose?

   (1) Eighty percent of the female voters voted for Edith.
   (2) Sixty percent of the male voters voted for Jose.

8. During week W, how much did it cost, per mile, for the gasoline used by car X?

   (1) During week W, car X used gasoline that cost $1.24 per gallon.
   (2) During week W, car X was driven 270 miles.

9. If r and s are integers, is r divisible by 7?

   (1) The product rs is divisible by 7.
   (2) s is not divisible by 7.

10. If $\frac{m}{n} = \frac{5}{3}$, what is the value of $m + n$?

    (1) $m > 0$
    (2) $2m + n = 26$

11. If P and Q are each circular regions,

what is the radius of the larger of these regions?

(1) The area of P plus the area of Q is equal to 90π.
(2) The larger circular region has a radius that is 3 times the radius of the smaller circular region.

12. Is z less than 0?

(1) $xy > 0$ and $yz < 0$.
(2) $x > 0$

13. If the total price of n equally priced shares of a certain stock was $12,000, what was the price per share of the stock?

(1) If the price per share of the stock had been $1 more, the total price of the n shares would have been $300 more.
(2) If the price per share of the stock had been $2 less, the total price of the n shares would have been 5 percent less.

14. What is the ratio of $x : y : z$?

(1) $z = 1$ and $xy = 32$

(2) $\frac{x}{y} = 2$ and $\frac{z}{y} = \frac{1}{4}$.

15. What is Ricky's age now?

(1) Ricky is now twice as old as he was exactly 8 years ago.
(2) Ricky's sister Teresa is now 3 times as old as Ricky was exactly 8 years ago.

16. Is $xy > 5$?

(1) $1 \leqq x \leqq 3$ and $2 \leqq y \leqq 4$.
(2) $x + y = 5$

17. In year X, 8.7 percent of the men in the labor force were unemployed in June compared with 8.4 percent is May. If the number of men in the labor force was the same for both months, how many men were unemployed in June of that year?

(1) In May of year X, the number of unemployed men in the labor force was 3.36 million.
(2) In year X, 120,000 more men in the labor force were unemployed in June than in May.

18. If the average (arithmetic mean) of 4 numbers is 50, how many of the numbers are greater than 50?

(1) None of the four numbers is equal to 50.
(2) Two of the numbers are equal to 25.

19. On Monday morning a certain machine ran continuously at a uniform rate to fill a production order. At what time did it completely fill the order that morning?

(1) The machine began filling the order at 9:30 a.m.

(2) The machine had filled $\frac{1}{2}$ of the order by 10:30 a.m. and $\frac{5}{6}$ of the order by 11:10 a.m.

20. If $n + k = m$, what is the value of k?

(1) $n = 10$
(2) $m + 10 = n$

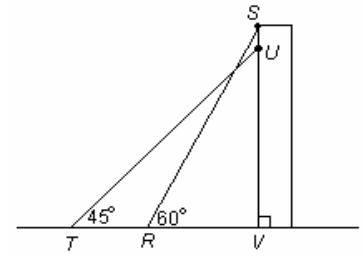
21. Town T has 20,000 residents, 60 percent of whom are female. What percent of the residents were born in Town T?

(1) The number of female residents who were born in Town T is twice the number of male residents who were not born in Town T.
(2) The number of female residents who were not born in Town T is twice the number of female residents who were born in Town T.

22. Can the positive integer n be written

as the sum of two different positive prime numbers?

(1) *n* is greater than 3.
(2) *n* is odd.



23. In the figure above, segments *RS* and *TU* represent two positions of the same ladder leaning against the side *SV* of a wall. The length of *TV* is how much greater than the length of *RV*?

(1) The length of *TU* is 10 meters.
(2) The length of *RV* is 5 meters.

24. If both *x* and *y* are nonzero numbers, what is the value of $\frac{y}{x}$?

(1) x = 6
(2) $y^2 = x^2$

25. If *x* = 0. *rstu*, where *r, s, t,* and *u* each represent a nonzero digit of *x*, what is the value of *x*?

(1) r = 3*s* = 2t = 6*u*
(2) The product of *r* and *u* is equal to the product of *s* and *t*.

SECTION 10
30 Minutes 25 Questions

1. If Hans purchased a pair of skis and a ski jacket, what was the cost of the skis?

   (1) The ratio of the cost of the skis to the cost of the jacket was 5 to 1.
   (2) The total cost of the skis and the jacket was $360.

2. Is $x < y$?

   (1) $z < y$
   (2) $z < x$

3. If a certain city is losing 12 percent of its daily water supply each day because of water-main breaks, what is the dollar cost to the city per day for this loss?

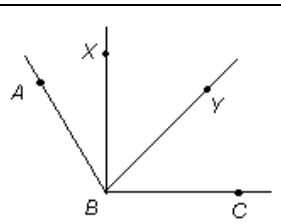
   (1) The city's daily water supply is 350 million gallons.
   (2) The cost to the city for each 12,000 gallons of water lost is $2.

4. Machine *X* runs at a constant rate and produces a lot consisting of 100 cans in 2 hours. How much less time would it take to produce the lot of cans if both machines *X* and *Y* were run simultaneously?

   (1) Both machines *X* and *Y* produce the same number of cans per hour.
   (2) It takes machine *X* twice as long to produce the lot of cans as it takes machines *X* and *Y* running simultaneously to produce the lot.

5. If *x* and *y* are positive, what is the value of *x*?

   (1) 200 percent of *x* equals 400 percent of *y.*
   (2) *xy* is the square of a positive integer.



6. In the figure above, what is the measure of $\angle ABC$?

   (1) *BX* bisects $\angle ABY$ and *BY* bisects $\angle XBC$.
   (2) The measure of $\angle ABX$ is 40^{o}.

7. If $-10 < k < 10$, is $k > 0$?

   (1) $\frac{1}{k} > 0$
   (2) $k^2 > 0$

	R	*S*	*T*	*U*
R	0	*y*	*x*	62
S	*y*	0	56	75
T	*x*	56	0	69
U	62	75	69	0

8. The table above shows the distance, in kilometers, by the most direct route, between any two of the four cities, *R, S, T,* and *U*. For example, the distance between City *R* and City *U* is 62 kilometers. What is the value of *x*?

   (1) By the most direct route, the distance between *S* and *T* is twice the distance between *S* and *R*.
   (2) by the most direct route, the distance between *T* and *U* is 1.5 times the distance between *R* and *T*.

9. Buckets *X* and *Y* contained only water and bucket *Y* was $\frac{1}{2}$ full. If all of the water in bucket *X* was then poured into bucket *Y*, what fraction of the capacity of *Y* was then filled with water?

   (1) Before the water from *X* was

poured, X was $\frac{1}{3}$ full.

(2) X and Y have the same capacity.

10. If n is an integer, is $n+2$ a prime number?

(1) n is a prime number.
(2) $n + 1$ is not a prime number.

11. Is x between 0 and 1?

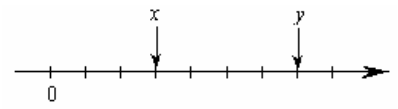
(1) x^2 is less than x.
(2) x^3 is positive.

12. Did Sally pay less than x dollars, including sales tax, for her bicycle?

(1) The price Sally paid for the bicycle was $(0.9)x$ dollars, excluding the 10 percent sales tax.
(2) The price Sally paid for the bicycle was \$170. excluding sales tax.

13. Is the positive square root of x an integer?

(1) $x = n^4$ and n is an integer.
(2) $x = 16$



14. If the successive tick marks shown on the number line above are equally spaced and if x and y are the numbers designating the end points of intervals as shown, what is the value of y?

(1) $x = \frac{1}{2}$

(2) $y - x = \frac{2}{3}$

15. In a certain senior citizens' club, are more than $\frac{1}{4}$ of the members over 75 years of age?

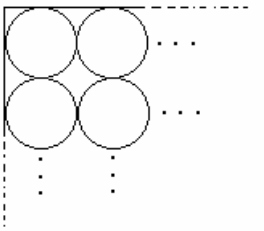
(1) Exactly 60 percent of the female members are over 60 years of age, and, of these, $\frac{1}{3}$ are over 75 years of age.
(2) Exactly 10 male members are over 75 years of age.

16. If $t \neq 0$, is r greater that zero?

(1) $rt = 12$
(2) $r + t = 7$

17. If x is an integer, is y an integer?

(1) The average (arithmetic mean) of x, y and $y - 2$ is x.
(2) The average (arithmetic mean) of x and y is not an integer.



18. The inside of a rectangular carton is 48 centimeters long, 32 centimeters wide, and 15 centimeters high. The carton is filled to capacity with k identical cylindrical cans of fruit that stand upright in rows and columns, as indicated in the figure above. If the cans are 15 centimeters high, what is the value of k?

(1) Each of the cans has a radius of 4 centimeters.
(2) 6 of the cans fit exactly along the length of the carton.

19. If $R = \frac{8x}{3y}$ and $y \neq 0$ what is the value of R?

(1) $x = \frac{2}{3}$
(2) $x = 2y$

20. Is the positive integer n a multiple of 24?

(1) n is a multiple of 4.
(2) n is a multiple of 6.

21. What is the area of the rectangular region above?

(1) $l + w = 6$
(2) $d^2 = 20$

22. If Aaron, Lee, and Tony have a total of $36, how much money does Tony have?

(1) Tony has twice as much money as Lee and $\frac{1}{3}$ as much as Aaron.
(2) The sum of the amounts of money that Tony and Lee have is half the amount that Aaron has.

23. If n is a positive integer, is the value of $b - a$ at least twice the value of $3^n - 2^n$?

(1) $a = 2^{n+1}$ and $b = 3^{n+1}$
(2) $n = 3$

24. The price per share of stock X increased by 10 percent over the same time period that the price per share of stock Y decreased by 10 percent. The reduced price per share of stock Y was what percent of the original price per share of stock X?

(1) The increased price per share of stock X was equal to the original price per share of stock Y.
(2) The increase in the price per share of stock X was 10/11 the decrease in the price per share of stock Y.

25. Any decimal that has only a finite number of nonzero digits is a terminating decimal. For example, 24, 0.82, and 5.096 are three terminating decimals. If r and s are positive integers and the ratio r/s is

expressed as a decimal, is r/s a terminating decimal?

(1) $90 < r < 100$
(2) $s = 4$

Section 11
30 Minutes 25 Questions

1. Kelly's raise increased his salary by what percent ?

(1) Kelly's raise was $1,200.
(2) Kelly's raise increased his taxes to $1,700.

2. Mouse population *X* doubles every week. How many weeks from now will population *X* first exceed 1,000,000 ?

(1) The mouse population is now 65,536.
(2) Fifteen weeks ago the mouse population was 2.

3. If no student took test *T* more than once, how many students took test *T* ?

(1) The average (arithmetic mean) of the students' scores on test *T* was 72.
(2) The sum of he students' scores on test *T* was 2,232.

4. if $\triangle$ denotes an operation, what is the value of $(a \triangle b) \triangle c$?

(1) $a \triangle b = 5$
(2) $5 \triangle c = 3$

5. If $x + 2y = 6$, what is the value of x ?

(1) $2x + y = 9$
(2) $3x + 2y = 14$

6. Is $\frac{x}{8} = \frac{3}{4}$

(1) $x > 5.5$
(2) $x < 7$

7. Last year $\frac{4}{5}$ of the applicants for a job on a police force passed the physical xamination. If $\frac{3}{4}$ of the

applicants who passed the physical examination also passed the written examination, how many of the applicants passed both examinations ?

(1) The number of applicants who did not pass either examination was equal to the number who passed the written examination only.
(2) There was a total of 100 applicants.

8. Is the integer *n* even ?

(1) $n^2 - 1$ is odd.
(2) $\sqrt{n}$ is an integer.

9. If today is Carol's birthday, how old is Carol?

(1) 6 years ago she was half her present age.
(2) 3 years from now she will be 3 times as old as she was 7 years ago.

10. If *x, y,* and *z* are positive, what is the value of *x* ?

(1) x + y = z + y
(2) z – y = 4 – y

11. Is *x* an integer ?

(1) $\frac{2}{3}x$ is an integer.
(2) *x* – 4 is an integer.

12. If *y* > 0, is *y* greater than *x* ?

(1) 3*x* = 2*y*
(2) x + y = 5

13. Did the population of Country *S* increase by less than 20 percent from 1965 to 1975 ?

(1) The population of Country *S* in 1965 was 180 million.
(2) The population of Country *S* in 1975 was 1.17 times what it was in 1965.

14. If *a* and *b* are positive integers, is $\frac{a}{b} = \frac{2}{3}$?

(1) 3*a* = 2*b*
(2) For integers *m* and *n*, *a* = 2*m* and *b* = 3*n*

15. *G, P,* and *S* are animal species. What is the average life span, in year, of *S* ?

(1) The average life span of *S* is twice that of *P* and $\frac{4}{5}$ that of *G*.
(2) The average life span of *G* is 30 years longer than that of *P* and 10 years longer than that of *S*.

16. If point *X* is inside a circle with center *O* and radius 2, is point *Y* inside the same circle?

(1) *OX* = 1
(2) *XY* = $2\frac{1}{2}$

17. Four dollar amounts, *w, x, y*, and *z*, were invested in a business. Which amount was greatest'?

(1) y < z < x
(2) *x* was 25 percent of the total of the four investments.

18. If the measures of' the three interior angles of a triangle are *y* ° , 15*x* ° , and 18*x* ° , what is the value of *y* ?

(1) *x* =5
(2) 15*x* + *y* = 90

19. What is the average (arithmetic mean) of *x* and *y* ?

(1) $\frac{x}{2} + \frac{y}{2} = 10$
(2) *x* = 2*y*

20. How many bags of grass seed were

used for rectangular lawn *X* ?

(1) Lawn *X* has a perimeter of 720 feet.
(2) One bag of grass seed was used for each 5,000 square feet of lawn *X*

21. If *x* and *y* are positive. is *y*< 2 ?

(1) *x* > 2*y*
(2) *x* < *y* + 2

22. If *n* is a positive integer, is *n* divisible by at least six positive integers?

(1) *n* is the product of three different prime numbers.
(2) *n* = 30

23. A car traveled a distance of *d* miles in *t* minutes at an average rate of *r* miles per minute. What is the ratio of *d* to *r* ?

(1) *t* = 30
(2) *d* = 25

24. If *b* is the product of three consecutive positive integers *c, c* + 1, and *c* + 2, is *b* a multiple of 24 ?

(1) *b* is a multiple of 3,
(2) *c* is odd.

25. If *x* is a positive number, what is the value of *x* ?

(1) | *x* – 2 | = 1
(2) $x^2 = 4x - 3$

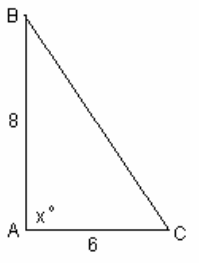
Section 12
30 Minutes 25 Questions

1.What is the total number of employees in the per-sonnel and data processing divisions of Company *S* ?

(1) The number of employees in the data processing division is 3 more than twice the number of employees in the personnel division.
(2) The number of employees in the data process-ing division is 15.

2. If *x* and *y* are integers, is *x* + *y* divisible by 6 ?

(1) *x* is divisible by 6.
(2) *y* is divisible by 6.



3. In the figure above, what is the length of segment BC ?

(1) *x* = 90
(2)The perimeter of △ABC is 24.

4. Of the books that are standing upright along the top shelf of a bookcase, some are $\frac{1}{2}$-inch thick and the rest are $\frac{3}{4}$-inch thick. What is the total number of books standing upright along the top shelf ?

(1) Half of these books are $\frac{1}{2}$-inch thick.
(2) The total thickness of all of these books is 25 inches.

5. In the terminating decimal equivalent of *d*, what is the number of nonzero digits to the right of the deci-mal point?

(1) $d = 5 + \frac{416}{1{,}000}$

(2) The terminating decimal equivalent of *d* has one nonzero digit to the left of the decimal point.

6. In a given class, what is the average (arithmetic mean) height per pupil ?

(1) The average (arithmetic mean) height of the girls in the class is 61 inches.
(2) The average (arithmetic mean) height of the boys in the class is 64 inches.

7. Richard's salary is greater than $25,000. Is Amy's salary greater than Brian's salary?

(1) Brian's salary is 125 percent of Richard's salary, and Amy's salary is greater than 130 percent of Richard's salary.
(2) Richard's salary is 75 percent of Amy's salary but is 80 percent of Brian's salary.

8. Are integers *r* and *s* consecutive ?

(1) *r* is odd and *s* is even.
(2) *r* - *s* = 1

9. There are exactly 6 teams in league *X*. What was the total number of games played by the 6 teams last season?

(1) Each team in league *X* played each of the other teams at least once.
(2) No team in league *X* played more than 7 games.

10. Does $x^2 = y$?

(1) $\sqrt{y} = -x$
(2) $x < y$

11. In the figure above, *x, y,* and *z* denote the lengths of the sides of a triangular flower bed bounded by three driveways. What is the perimeter of the flower bed ?

(1) *x* = *y* = 30 feet.
(2) *k* = 60

12. Is *r* > *s* ?

(1) $-r + s < 0$
(2) $r < |s|$

13. A raincoat and an umbrella cost a total of $53.50. What is the cost of the raincoat?

(1) If the cost of the raincoat were to increase by 10 percent, the raincoat and the umbrella would cost a total of $58.00.
(2) The cost of the raincoat is $2.50 more than 5 times the cost of the umbrella.

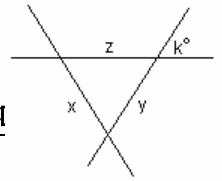
14. What is the value of $x^2 + 2xy + y^2$?

(1) *x* + *y* = 7
(2) *x* = 2

15. If each of the positive integers *a, b,* and *c* is a prime number and *abc* = 30, what is the value of *c* ?

(1) *a* < *b* < *c*
(2) *a* + *b* = *c*

16. If *y* = *ax* + *b,* where *a* and *b* are constants, what is the value of *y* when *x* = 10 ?



(1) When $x = 1$, $y = 5$.
(2) When $x = 5$, $y = 13$.

17. If x and y are positive, then x is what percent of y?

(1) 15 is 25 percent of y.
(2) x is 10 percent of $2y$.

18. In year X a total of 355 billion dollars was spent for health care in the United States, 30 percent of which was spent by private health insurance compa-nies. Was the amount spent for health care by the federal government's medicare program less than 60 billion dollars?

(1) In year X medicare spent more than $\frac{1}{2}$, but less than $\frac{2}{3}$, of the amount spent by the private health insurance companies for health care.
(2) In year X medicare spent 50 billion dollars less for health care than the amount spent by private health insurance companies.

19. If $xyz \neq 0$. what is the value of $\frac{z}{y^2}$?

(1) $x = \frac{3}{4}y$

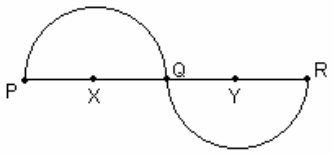
(2) $z = \frac{2}{3}x$

20. Jane is in a certain ticket line in which each of the other people in the line is either behind her or ahead of her. In the line, the number of people ahead of Jane is 5 more than the number of people behind her. What is the total number of people in the line?

(1) There are 11 people ahead of Jane in the line.
(2) The total number of people in the line is 3 times the number of people behind Jane.

21. In the rectangular coordinate system, if line ℓ is parallel to one of the axes, does line ℓ contain the point (4, 5) ?

(1) Line ℓ contains the point (4, -5).
(2) Line ℓ crosses the x-axis.



22. In the figure above, if PR is a line segment, what is the sum of the lengths of the curved paths from P to Q and from Q to R ?

(1) $XQ = QY = 5$ centimeters.
(2) Every point on arc PQ is 5 centimeters from point X, and every point on arc QR is 5 centimeters from point Y.

23. Last year Luis invested x dollars for one year, half at 8 percent simple annual interest and the other half at 12 percent simple annual interest. Now he wants to reinvest the x dollars for one year in the same two types of investments, but the lower rate has decreased. If the higher rate is unchanged, what fraction of the x dollars must he reinvest at the 12

percent rate so that the total interest earned from the *x* dollars will be the same for both years ?

(1) The lower rate is now 6 percent.
(2) The total amount of interest earned from the two investments last year was $3,000.

24. Is the integer *n* a multiple of 140 ?

(1) *n* is a multiple of 10.
(2) *n* is a multiple of 14.

25. If *x, y,* and *n* are positive integers, is $\left(\frac{x}{y}\right)^n$ greater than 1,000 ?

(1) $x = y^3$ and $n > y$.
(2) $x > 5y$ and $n > x$.

Section 13
30 Minutes 25 Questions

1. Who is older, Akira or Michiko?

(1) Akira and Michiko are 3 years apart in age.
(2) Akira's younger brother is 11 years old.

2. What is the value of *x* ?

(1) $3x = 30$
(2) $x + y = 40$

3. How many hours does it take 12 machines with identical production rates, running simultaneously without stopping, to fill a certain production order ?

(1) It takes each machine alone, running continuously, 60 hours to fill the production order.
(2) It takes 10 of these machines, running simultaneously without stopping, 6 hours to fill the production order.

4. If *n* is a positive number, what is the value of *n* ?

(1) $1 + n = \frac{5}{4}$
(2) $n^2 = \frac{1}{16}$

5. What are the populations of Cities *Y* and *Z* ?

(1) The population of City *Z* is 275,000 more than the population of City *Y.*
(2) The ratio of the population of City *Z* to the population of City *Y* is 76 to 21.

6. If *n* is an integer, is *n* odd ?

(1) The tens digit of *n* is odd.
(2) n^2 is odd.

7. If $x > y$, is $cx > cy$?

(1) $c > 0$
(2) $xy > 0$

8. Terry and Pat collected cans for recycling. What was the ratio of the number of carts Terry collected to the number of cans Pat collected?

(1) Pat collected 50 percent of the cans that they collected.
(2) Terry collected 140 cans.

9. Is the integer n equal to 25 ?

(1) n is the square of an integer.
(2) $15 < n < 37$

10. Is line ℓ parallel to the y-axis?

(1) The equation of line ℓ is $x = 4$.
(2) The points (4. 2) and (4, - 5) are on line ℓ.

11. According to the graph above, the sale of fruits and vegetables in Store S last week accounted for what percent of the total sales income for the week?

(1) Last week the total income from the sale of fruits and vegetables in Store S was \$16,000.
(2) $x = 2y$

12. In a sequence of numbers in which each term after the first term is 1 more than twice the preceding term, what is the fifth term?

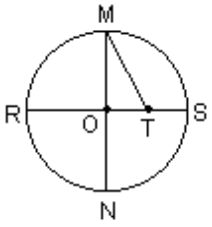
(1) The first term is 1.
(2) The sixth term minus the fifth term is 32.

13. Larry saves x dollars per month. Will Larry's total savings one year from now exceed his present savings by at least \$500 ? (Assume that there is no interest.)

(1) In 6 months Larry's total savings will be \$900.
(2) In 3 months Larry's total savings will exceed his present savings by \$150.

14. Is $|x - 3| < 7$?

(1) $x > 0$
(2) $x < 10$



15. In the figure above, what is the area of the circular region with center O ?

(1) MN is perpendicular to RS.
(2) The area of triangular region OMT is 4.

16. Pat is reading a book that has a total of 15 chapters. Has Pat read at least $\frac{1}{3}$ of the pages in the book?

(1) Pat has just finished reading the first 5 chapters.
(2) Each of the first 3 chapters has more pages than each of the other 12 chapters in the book..

17. If $a_1, a_2, a_3, \ldots, a_n, \ldots$ is a sequence such that $a_n=2n$ for all $n \geq 1$, is a_i greater than a_j ?

(1) i is odd and j is even
(2) $i^2 > j^2$

18. What was the average (arithmetic mean) monthly rainfall during 1984 in region Y?

(1) In region Y the total rainfall for the first 6 months of 1984 was twice the total rainfall for the last 6 months of 1984.
(2) In region Y the average monthly rainfall for the first 6 months of 1984 was 2.31 inches more than the average monthly rainfall for the last 6 months of 1984.

19. If $2x + 3y = 5$, what is the value of x ?

(1) $x + z = 3 + 2y + z$
(2) $y = -\frac{1}{7}$

20. If S is the sum of the first n positive integers, what is the value of n ?

(1) $S < 20$
(2) $s^2 > 220$

21. A small factory that produces only upholstered chairs and sofas uses 1 cushion for each chair and 4 cushions for each sofa. If the factory used a total of 300 cushions on the furniture it produced last week, how many sofas did it produce last week ?

(1) Last week the factory produced more chairs than sofas.
(2) Last week the factory produced a total of 150 chairs and sofas.

22. If integer p is a factor of 42, is p a prime number?

(1) $p > 6$
(2) $p < 21$

23. What is the value of t ?

(1) The average (arithmetic mean) of t^2 and $8t$ is –8.
(2) $\sqrt{t^4} = 16$

24. What is the area of a rectangular surface that has length x feet and width y feet ?

(1) y is the reciprocal of x.
(2) The perimeter of the rectangular surface is 5 feet.

25. What is the greatest common divisor of positive integers m and n ?

(1) m is a prime number.
(2) m and n are consecutive integers.

Section 14
25 Minutes 20 Questions

1. Is $1 < x < 2$?

   (1) $0 < x$
   (2) $x < 3$

2. Water is pumped into a partially filled tank at a constant rate through an inlet pipe. At the same time, water is pumped out of the tank at a constant rate through an outlet pipe. At what rate, in gallons per minute, is the amount of water in the tank increasing?

   (1) The amount of water initially in the tank is 200 gallons.
   (2) Water is pumped into the tank at a rate of 10 gallons per minute and out of the tank at a rate of 10 gallons every $2\frac{1}{2}$ minutes.

3. If *P, Q*, and *R* are three distinct points, do line segments *PQ* and *PR* have the same length ?

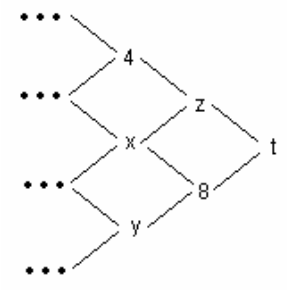
   (1) *P* is the midpoint of line segment *QR*.
   (2) *Q* and *R* lie on the same circle with center *P*.

4. What distance did Jane travel?

   (1) Bill traveled 40 miles in 40 minutes.
   (2) Jane traveled at the same average rate as Bill.

5. The profit from the sale of a certain appliance increases, though not proportionally, with the number of units sold. Did the profit exceed $4 million on sales of 380,000 units ?

   (1) The profit exceeded $2 million on sales of 200,000 units.
   (2) The profit exceeded $5 million on sales of 350,000 units.



6. Each number in the arrangement above is obtained from the two nearest numbers in the column imme-diately to the left by subtracting the upper number from the lower number. What is the value of *z* ?

   (1) $x = 7$
   (2) $t = 5$

7. How many people are directors of both Company *K* and Company *R* ?

   (1) There were 17 directors present at a joint meeting of the directors of Company *K* and Company *R*, and no directors were absent.
   (2) Company *K* has 12 directors and Company *R* has 8 directors.

8. What is the value of $xy - yz$?

   (1) $y = 2$
   (2) $x - z = 5$

9. The length of the edging that surrounds circular garden *K* is $\frac{1}{2}$ the length of the edging that surrounds circular garden *G*. What is the area of garden *K* ? (Assume that the edging has negligible width.)

   (1) The area of *G* is 25π square meters.
   (2) The edging around *G* is 10π meters long.

10. If the average (arithmetic mean) of six numbers is 75, how many of the numbers are equal to 75 ?

(1) None of the six numbers is less than 75.
(2) None of the six numbers is greater than 75.

11. An employee is 1.5 times the regular hourly rate for each hour worked in excess of 40 hours per week, excluding Sunday, and 2 times the regular hourly rate for each hour worked on Sunday. How much was the employee paid last week?

(1) The employee's regular hourly rate is $10.
(2) Last week the employee worked a total of 54 hours but did not work more than 8 hours on any day.

12. If *n* and *k* are greater than zero, is $\frac{n}{k}$ an integer ?

(1) *n* and *k* are both integers.
(2) n^2 and k^2 are both integers.

13. At Larry's Auto Supply Store, Brand *X* antifreeze is sold by the gallon and Brand *Y* motor oil is sold by the quart. Excluding sales tax, what is the total cost for 1 gallon of Brand *X* antifreeze and 1 quart of Brand *Y* motor oil?

(1) Excluding sales tax, the total cost for 6 gallons of Brand *X* antifreeze and 10 quarts of Brand *Y* motor oil is $58. (There is no quantity discount.)
(2) Excluding sales tax, the total cost for 4 gallons of Brand *X* antifreeze and 12 quarts of Brand *Y* motor oil is $44. (There is no quantity discount.)

14. If *x* is an integer, is $x \mid x \mid < 2^x$

(1) $x < 0$
(2) $x = -10$

15. By what percent did the median household income in Country *Y* decrease from 1970 to 1980 ?

(1) In 1970 the median household income in Country *Y* was $\frac{2}{3}$ of median household income in Country *X*.
(2) In 1980 the median household income in Country *Y* was $\frac{1}{2}$ of the median household income in Country *X*.

16. If *n* is a positive integer, is $\left(\frac{1}{10}\right)^n < 0.01$?

(1) $n > 2$
(2) $\left(\frac{1}{10}\right)^{n-1} < 0.1$

17. If $x < 0$, is $y > 0$?

(1) $\frac{x}{y} < 0$
(2) $y - x > 0$

18. If *x, y,* and *z* are positive integers, is *x* – *y* odd ?

(1) $x = z^2$
(2) $y = (z-1)^2$

19. What is the tens digit of positive integer *x* ?

(1) *x* divided by 100 has a remainder of 30.
(2) *x* divided by 110 has a remainder of 30.

20. If *x* and *y* are positive, is the ratio of *x* to *y* greater than 3 ?

(1) *x* is 2 more than 3 times *y*.
(2) The ratio of 2*x* to 3*y* is greater than 2.

Section 15
25 Minutes 20 Questions

1. The regular price per eight-ounce can of brand *X* soup is $0.37, regardless of the number of cans purchased. What amount will be saved on the purchase of 3 eight-ounce cans of brand *X* soup if the regular price is reduced ?

(1) At the reduced price, 3 eight-ounce cans of brand *X* soup will cost $0.99
(2) The amount that will be saved on each eight-ounce can of brand *X* soup purchased at the reduced price is $0.04.

2. Does Joe weigh more than Tim?

(1) Tim's weight is 80 percent of Joe's weight.
(2) Joe's weight is 125 percent of Tim's weight.

3. Not scored

4. What is the value of *xy* ?

(1) *x* + *y* = 10
(2) *x* – *y* = 6

5. Elena receives a salary plus a commission that is equal to a fixed percentage of her sales revenue. What was the total of Elena's salary and commission last month ?

(1) Elena's monthly salary is $1,000.
(2) Elena's commission is 5 percent of her sales revenue.

6. Point (*x, y*) has in which quadrant of the rectangular coordinate system shown above ?

(1) $x + y < 0$
(2) $x = 1$ and $y = -7$

7. What is the average (arithmetic mean) of *x*, *y* and *z*

(1) $x + y = 5$
(2) $y + z = 7$

8. Chan and Micko drove separate cars along the entire length of a certain route. If Chan made the trip in 15 minutes, how many minutes did it take Micko to make the same trip ?

(1) Micko's average speed for the trip was $\frac{3}{4}$ of Chan's average speed.
(2) The route is 14 miles long.

9. If $xy \neq 0$, is $\frac{x}{y} < 0$?

(1) $x = y$
(2) $-x = -(-y)$

10. What is the value of the two-digit integer *x* ?

(1) The sum of the two digits is 3
(2) *x* is divisible by 3

11. Is the number *x* between 0.2 and 0.7 ?

(1) $560x < 280$
(2) $700x > 280$

12.Is *x* an integer ?

(1) $\frac{x}{2}$ is an integer.
(2) $2x$ is an integer.

13. A swim club that sold only individual and family memberships charged $300 for an individual membership. If the club's total revenue from memberships was $480,000, what was the charge

for a family membership ?

(1) The revenue from individual memberships was $\frac{1}{4}$ of the total revenue from memberships.
(2) The club sold 1.5 times as many family member- ships as individual memberships.

14. If *x, y,* and *z* are positive numbers, is $x > y > z$?

(1) $xz > yz$
(2) $yx > yz$

15.Can the positive integer *p* be expressed as the product of two integers, each of which is greater than 1 ?

(1) $31 < p < 37$
(2) *p* is odd

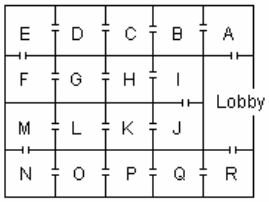
16. Currently there are 50 picture books each shelf in the children's section of a library. If these books were to be placed on smaller shelves with 30 picture books on each shelf, how many of the smaller shelves would be needed to hold all of these books ?

(1) The number of smaller shelves needed is 6 more than the current number of shelves.
(2) Currently there are 9 shelves in the children's section.

17. Is $y = 6$?

(1) $y^2 = 36$

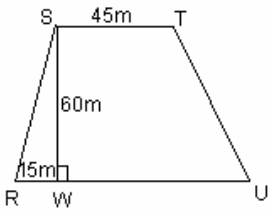
(2) $y^2 - 7y + 6 = 0$



18. The figure above represents the floor plan of an art gallery that has a lobby and 18 rooms. If Lisa goes from the lobby into room A at the same time that Paul goes from the lobby into room R, and each goes through all of the rooms in succession, entering by one door and exiting by the other, which room will they be in at the same time ?

(1) Lisa spends 2*x* minutes in each room and Paul spends 3*x* minutes in each room.

(2) Lisa spends 10 minutes less time in each room than Paul does.



19. Quadrilateral *RSTU* shown above is a site plan for a parking lot in which side *RU* is parallel to side *ST* and *RU* is longer than *ST*. What is the area of the parking lot ?

(1) *RU* = 80 meters

(2) *TU*= $20\sqrt{10}$ meters

20. If *xy* = -6 , what is the value of *xy(x+y)* ?

(1) *x* – *y* = 5

(2) $xy^2 = 18$

数据充分性答案

Section 1: DCCAE BBEAA EDEDA DEECC BAACD
Section 2: ECCAB DEDBA CEBDA CABCD EABBA
Section 3: CDEBC BEDAD EAECD AAECB CDAEB
Section 4: BCEED BCDAD EAADC EBDDA DCCAE
Section 5: CCEDD DBACD AAEEC ECBDD CBADB

Section 6: CECDD AEDCB AECBB CABBA EACDA
Section 7: CABAC EDDEB EAEAC DCDBD BDEDC
Section 8: CEDAE EBDBA EABAC DEDDC CBABC
Section 9: DBCDC CAECB CCDBA EDEBB CEDEA
Section 10: CACDE CABCE AADDE CADBE CAADB

Section 11: EDCCD EBADC BABAC ECDAE CDAAE
Section 12: CCDCA EDBEA CADAD CBBED CBAEB
Section 13: EADDC BAAED DDBCE EBCDC BEAAB
Section 14: EBDEB DCCDD EECDE DACAD
Section 15: DDDCE BEADE CACEA DCADB

Section 16: CDCAD DEBEB CEBDA ECDCE
Section 17: DECED EEADC ADDBE ADACB
Section 18: ED□AC DDACE DCBAD ACBBA
Section 19: CABBA EECAD ECCCE EDCEB
Section 20: DBEBA CABEC EDDAC DDEBC

Section 21: DACDB ECDDB CCABE ACBDA
Section 22: DDCEA CEAAB BCAEB EEDBA