Section 16
25 Minutes 20 Questions

1. Is x greater than 75 percent of y ?

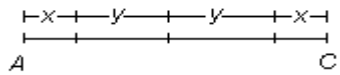
(1) $x = 40$
(2) $y = 50$

2. The integer x is how much greater than 3 ?

(1) $10^x = 100{,}000$
(2) $\frac{1}{10^x} = 0.00001$

3. A citrus fruit grower receives \$15 for each crate of oranges shipped and \$18 for each crate of grapefruit shipped. How many crates of oranges did the grower ship last week?

(1) Last week the number of crates of oranges that the grower shipped was 20 more than twice the number of crates of grapefruit shipped.
(2) Last week the grower received a total of \$38,700 from the crates of oranges and grapefruit slipped.



4. In the figure above, what is the length of AC ?

(1) $x + y = 13$
(2) $xy = 36$

5. The charge for a telephone call between City R and City S is \$0.42 for each of the first 3 minutes and \$0.18 for each additional minute. A certain call between these two cities lasted for x minutes, where x is an integer. How many minutes long was the call?

(1) The charge for the first 3 minutes of the call was \$0.36 less than the charge for the remainder of the call.
(2) The total charge for the call was \$2.88.

6. Is the integer P odd ?

(1) The sum of P, $P + 4$, and $P + 11$ is even.
(2) The sum of $P - 3$, P, and $P + 11$ is odd.

7. If a certain grove consists of 36 pecan trees, what was the yield per tree last year?

(1) The yield per tree for the 18 trees in the northern half of the grove was 60 kilograms last year.
(2) The yield per tree for the 18 trees in the eastern half of the grove was 55 kilograms last year.

8. What was the percent increase in the value of a certain antique from January 1, 1981, to December 31, 1981?

(1) The value of the antique on January 1, 1981, was \$3,000.
(2) The value of the antique on December 31, 1981, was double the value of the antique on January 1,1981.

9. In the xy-plane, is point (2, -3) on line λ ?

(1) Point (-2, 3) is on λ.
(2) λ is not perpendicular to the x-axis.

10. If r is represented by the decimal $0.t5$, what is the digit t ?

(1) $r < \frac{1}{3}$
(2) $r < \frac{1}{10}$

11. Is $7 < \sqrt{n} < 8$?

(1) $n > 50$
(2) $n < 60$

12. If a total of 84 students are enrolled in two sections of a calculus course, how many of the 84 students are female?

(1) $\frac{2}{3}$ of the students in Section 1 are female.
(2) $\frac{1}{2}$ of the students in Section 2 are

male.

13. What is the value of the greater of two numbers if one of the numbers is twice the other number?

(1) One number is 5.
(2) The sum of the two numbers is 15.

14. If $r > 0$ and $s > 0$, is $\frac{r}{s} < \frac{s}{r}$?

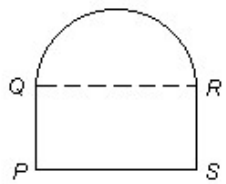
(1) $\frac{r}{3s} = \frac{1}{4}$
(2) $s = r + 4$

15. Company R's annual profit has increased by a constant amount each calendar year since 1985. What was Company R's annual profit in 1991 ?

(1) In 1985 Company R's annual profit was \$212,000; in 1989 Company R's annual profit was \$242,000.
(2) Company R's annual profit has increased by \$7,500 each year since 1985.

16. If x is an integer, is $\frac{54+27}{x}$ an integer ?

(1) $6 \leqslant x \leqslant 81$
(2) x is a multiple of 3.



17. The figure above shows the shape of a flower bed. If arc QR is a semicircle and PQRS is a rectangle with QR > RS, what is the perimeter of the flower bed ?

(1) The perimeter of rectangle PQRS is 28 feet.
(2) Each diagonal of rectangle PQRS is 10 feet long.

18. If $4x = 5y = 10z$, what is the value of $x + y + z$?

(1) $x - y = 6$
(2) $y + z = 36$

19. Committee X and Committee Y, which have no common members, will combine to form Committee Z. Does Committee X have more members than Committee Y ?

(1) The average (arithmetic mean) age of the members of Committee X is 25.7 years and the average age of the members of Committee Y is 29.3 years.
(2) The average (arithmetic mean) age of the members of Committee Z will be 26.6 years.

20. What is the value of y ?

(1) $y^2 - 7y + 12 = 0$
(2) $y > 0$

Section 17
25 Minutes 20 Questions

1. If the list price of a new car was $12,300, what was the cost of the car to the dealer ?

(1) The cost to the dealer was equal to 80 percent of the list price.
(2) The car was sold for $11,070, which was 12.5 percent more than the cost to the dealer.

2. If *p, q, x, y,* and *z* are different positive integers, which of the five integers is the median?

(1) p + x < q
(2) y < z

3. A certain employee is paid $6 per hour for an 8-hour workday. If the employee is paid $1\frac{1}{2}$ times this rate for time worked in excess of 8 hours during a single day, how many hours did the employee work today?

(1) The employee was paid $18 more for hours worked today than for hours worked yesterday.
(2) Yesterday the employee worked 8 hours.

4. If *n* is a member of the set (33, 36, 38, 39, 41, 42), what is the value of *n* ?

(1) *n* is even.
(2) *n* is a multiple of 3.

5. What is the value of *x* ?
(1) $2x + 1 = 0$
(2) $(x+1)^2 = x^2$

6. In the figure above, what is the length of AD?

(1) AC = 6
(2) BD = 6

7. A retailer purchased a television set for *x* percent less than its list price, and then sold it for *y* percent less than its list price. What was the list price of the television set ?

(1) $x = 15$
(2) $x - y = 6$

8. Is x^2 greater than *x* ?

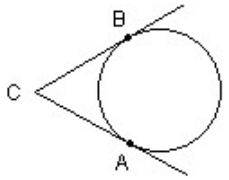
(1) x^2 is greater than 1.
(2) *x* is greater than –1.

9. What is the value of $\frac{r}{2}+\frac{s}{2}$?

(1) $\frac{r+s}{2}=5$
(2) $r + s = 10$

10. If *x, y,* and *z* are numbers, is $z = 18$

(1) The average (arithmetic mean) of *x, y,* and *z* is 6
(2) $x = -y$



11. The circular base of an above-ground swimming pool lies in a level yard and just touches two straight sides of a fence at points A and B, as shown in the figure above. Point C is on the ground where the two sides of the fence meet.
How far from the center of the pool's base is point A?

(1) The base has area 250 square feet.
(2) The center of the base is 20 feet from point C

12. In 1979 Mr. Jackson bought a total of *n* shares of stock X and Mrs. Jackson bought a total of 300 shares of stock X. If the couple held all of their respective shares throughout 1980, and Mr. Jackson's 1980 dividends on his *n* shares

totaled $150, what was the total amount of Mrs. Jackson's 1980 dividends on her 300 shares ?

(1) In 1980 the annual dividend on each share of stock X was $0.75.
(2) In 1979 Mr. Jackson bought a total of 200 shares of stock X.

13. If Sara's age is exactly twice Bill's age, what is Sara's age?

(1) Four years ago, Sara's age was exactly 3 times Bill's age.
(2) Eight years from now, Sara's age will be exactly 1.5 times Bill's age.

14. What is the value of $\frac{x}{yz}$?

(1) $x = \frac{y}{2}$ and $z = \frac{2x}{5}$
(2) $\frac{x}{z} = \frac{5}{2}$ and $\frac{1}{y} = \frac{1}{10}$

15. An infinite sequence of positive integers is called an "alpha sequence" if the number of even integers in the sequence is finite. If *S* is an infinite sequence of positive integers, is *S* an alpha sequence?

(1) The first ten integers in *S* are even.
(2) An infinite number of integers in *S* are odd.

16. if $xy > 0$, does $(x - 1)(y - 1) = 1$?

(1) x + y = xy
(2) x = y

17. After winning 50 percent of the first 20 games it played. Team A won all of the remaining games it played. What was the total number of games that Team A won?

(1) Team A played 25 games altogether
(2) Team A won 60 percent of all the games it played.

18.
$$\begin{array}{r} \square \\ +\triangle \\ \hline \bigstar \end{array}$$

In the addition problem above, each of the symbols $\square$, $\triangle$, and $\bigstar$ represents a positive digit. If $\square < \triangle$, what is the value of $\triangle$?

(1) $\bigstar = 4$
(2) $\square = 1$

CANCELATION FEES

Days Prior to Departure	Percent of Package Price
46 or more	10%
45-31	35%
30-16	50%
15-5	65%
4 or fewer	100%

19. The table above shows the cancelation fee schedule that a travel agency uses to determine the fee charged to a tourist who cancels a trip prior to departure. If a tourist canceled a trip with a package price of $1,700 and a departure date of September 4, on what day was the trip canceled ?

(1) The cancelation fee was $595
(2) If the trip had been canceled one day later, the cancelation fee would have been $255 more.

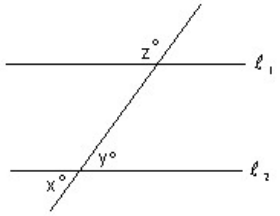
20. Is 5^k less than 1,000 ?

(1) $5^{k-1} > 3{,}000$
(2) $5^{k-1} = 5^k - 500$

Section 18
25 Minutes 20 Questions

1. How many numbers do the sets S and T have in common?

   (1) S is a set of 10 numbers.
   (2) T is a set of 100 numbers.



2. In the figure above, if line λ_1 is parallel to line λ_2, what is the value of x ?

   (1) $y = 50$
   (2) $z = 130$

3. NOT SCORED

4. If Pat saved \$600 of his earnings last month, how much did Pat earn last month?

   (1) Pat spent $\frac{1}{2}$ of his earnings last month for living expenses and saved $\frac{1}{3}$ of the remainder.
   (2) Of his earnings last month, Pat paid twice as much in taxes as he saved.

5. The purchase price of Beth's new car, including the sales tax, is \$8,000. If she finances the car, making a down payment of \$2,000 and paying off the rest in equal monthly installments, what will be the total cost of the car, including the sales tax and financing ?

   (1) The installments are to be \$200 per month.
   (2) The installments will extend over a period of exactly 3 years.

6. If $y \neq 0$, is $\frac{x}{y} = \frac{1}{2}$

   (1) x is 50 percent of y.
   (2) $0.1x = 0.05y$

7. If n is an integer, is n even ?

   (1) $n^2 - 1$ is an odd integer.
   (2) $3n + 4$ is an even integer.

8. If x, y, p, and q are positive, is $x \geq y$?

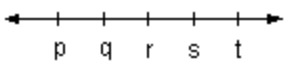
   (1) $\frac{px}{qy} = \frac{p}{q}$
   (2) xy = p

9. If p_1 and p_2 are the populations and r_1 and r_2 are the numbers of representatives of District 1 and District 2, respectively, the ratio of the population to the number of representatives is greater for which of the two districts ?

   (1) $p_1 > p_2$
   (2) $r_2 > r_1$

10. What digit does t represent in the decimal $0.t73$?

    (1) $t < 5$
    (2) $0.t73 < \frac{1}{t}$



11. On the number line above, $p, q, r, s,$ and t are five consecutive even integers in increasing order. What is the average (arithmetic mean) of these five integers ?

    (1) $q + s = 24$
    (2) The average (arithmetic mean) of q and r is 11.

12. What is the length in meters of a certain rectangular garden ?

    (1) The length of the garden is 6 meters more than twice the width.
    (2) The length of the garden is 4 times the width.

13. If $x < y$, is $x^2 < y^2$

    (1) $y > 0$

(2) $x > 0$

14. If Fran jumps straight up off the floor and lands on her feet T seconds later, her feet will reach a max-imum height of $1.22T^2$ meters above the floor. On one such jump, was Fran off the floor for less than 1 second ?

(1) On her jump Fran's feet reached a maximum height of 1 meter above the floor.

(2) On her jump Fran spent more than $\frac{1}{4}$ second ascending.

15. If $[x]$ denotes the greatest integer less than or equal to x, is $[x] = 0$?

(1) $5x + 1 = 3 + 2x$
(2) $0 < x < 1$

16. During a 6-day local trade show, the least number of people registered in a single day was 80. Was the average (arithmetic mean) number of people registered per day for the 6 days greater than 90?

(1) For the 4 days with the greatest number of people registered, the average (arithmetic mean) number registered per day was 100.
(2) For the 3 days with the smallest number of people registered, the average (arithmetic mean) number registered per day was 85.

17. If a and b are positive integers, what is the value of $a + b$?

(1) $\frac{a}{b} = \frac{5}{8}$
(2) The greatest common divisor of a and b is 1.

18. Are all of the numbers in a certain list of 15 numbers equal?

(1) The sum of all of the numbers in the list is 60.
(2) The sum of any 3 numbers in the list is 12.

DAILY TRAIN SCHEDULE

Train	Scheduled Departure Station S	Scheduled Arrival Station T
X	7:08 (EST)*	8:10 (EST)

* Eastern Standard Time

19. The table above shows the morning schedule for train X. If Juan took train X on Monday morning, did he arrive at station T on schedule?

(1) Juan arrived at station T on Monday morning 1 hour and 2 minutes after he left station S.
(2) Juan arrived at his office at 8:30 (EST) on Monday morning, which was 20 minutes after he arrived at station T.

20. If n and k are positive integers, is $\sqrt{n+k} > 2\sqrt{n}$?

(1) $k > 3n$
(2) n + k > 3n

Section 19
25 Minutes 20 Questions

1. What is the value of y ?

(1) y is an odd integer between 28 and 34
(2) $31 < y < 36$

2. The price of a television set was reduced by 25 percent. What was its original price?

(1) The reduced price was \$187.50.
(2) The original price exceeded the reduced price by more than \$60.00.

3. What is the remainder when the positive integer n is divided by 6 ?

(1) n is a multiple of 5.
(2) n is a multiple of 12.

4. Three friends rented a car for a week and divided the cost equally. What was the total cost of renting the car ?

(1) If the three friends had kept the car for a second week, they could have obtained the two-week rate, which was 1.5 times the cost of a one-week rental.
(2) If a fourth friend had joined the three friends and the cost had been divided equally among the four friends, the cost to each of the original three would have been reduced by \$15 ?

5. Is $x > y$?

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

6. Sally gave some of her candy to her friends. How many pieces of candy did she have before giving any to her friends?

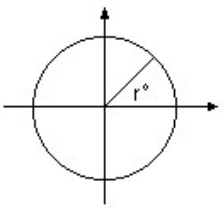
(1) Sally gave each friend 8 pieces of candy.
(2) Sally had 7 pieces of candy left after giving candy to her friends.

7. What was Jean's insurance premium in 1995?

(1) The ratio of Jean's insurance premium in 1995 to her insurance premium in 1994 was $\frac{6}{5}$.
(2) Jean's insurance premium in 1995 was 20 percent more than her insurance premium in 1994.

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

(1) The average of x and $2y$ is 10.
(2) The average of $2x$ and $7y$ is 32.



9. The figure above shows the present position on a radar screen of a sweeping beam that is rotating at a constant rate in a clockwise direction. In which of the four quadrants will the beam lie 30 seconds from now ?

(1) In each 30-second period, the beam sweeps through 3.690°
(2) $r = 40$

10. The number of seats in the first row of an auditorium is 18 and the number of seats in each row thereafter is 2 morn than in the previous row. What is the total number of seats in the auditorium?

(1) The number of rows of seats in the auditorium is 27.
(2) The number of seats in the last row is 70.

11. How many books did a librarian purchase ?

(1) The librarian paid an average (arithmetic mean) of \$15 per book for the books purchased.
(2) The total sales tax on the books

purchased was \$7.

12. Is the integer n a multiple of 15 ?

(1) n is a multiple of 20.
(2) $n + 6$ is a multiple of 3.

13. What is the area of rectangular region R ?

(1) Each diagonal of R has length 5.
(2) The perimeter of R is 14.

14. In a certain coding scheme, each word is encoded by replacing each letter in the word with another letter. The same code is used for all words, so that the same letter replaces a given letter each time the given letter occurs. What code will result when the word TAME is encoded by this scheme?

(1) When the word MAT is encoded, the result is DLX.
(2) When the word TEA is encoded, the result is XRL.

15. A certain high school with a total enrollment of 900 students held a science fair for three days last week. How many of the students enrolled in the high school attended the science fair on all three days?

(1) Of the students enrolled in the school, 30 percent attended the science fair on two or more days.
(2) Of the students enrolled in the school, 10 percent of those that attended the science fair on at least one day attended on all three days.

16. What is the probability that events A and B both occur?

(1) The probability that event A occurs is 0.8.
(2) The probability that event B occurs is 0.6.

17. If $n = \frac{p}{q}$ where p and q are nonzero integers, is n an integer ?

(1) n^2 is an integer.
(2) $\frac{2n+4}{2}$ is an integer.

18. In the rectangular coordinate system, are the points (r, s) and (u, v) equidistant from the origin ?

(1) $r + s = 1$
(2) $u = 1 - r$ and $v = 1 - s$

19. Is $ab = 1$?

(1) aba = a
(2) bab = b

20. Is $\sqrt{(x-3)^2} = 3 - x$?

(1) $x \neq 3$
(2) $-x \mid x \mid > 0$

Section 20
25 Minutes 20 Questions

1. How much is 20 percent of a certain number ?

(1) 10 percent of the number is 5.
(2) 40 percent of twice the number is 40.

2. Is r greater than 0.27 ?

(1) r is greater than $\frac{1}{4}$
(2) r is equal to $\frac{3}{10}$

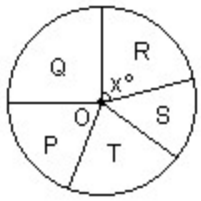
3. What percent of a group of people are women with red hair ?

(1) Of the women in the group, 5 percent have red hair.
(2) Of the men in the group, 10 percent have red hair.

4. If i and j are integers, is $i + j$ an even integer ?

(1) $i < 10$
(2) i = j

TOTAL EXPENSES FOR THE FIVE DIVISIONS OF COMPANY *H*



5. The figure above represents a circle graph of Company H's total expenses broken down by the expenses for each of its five divisions. If O is the center of the circle and if Company H's total expenses are $5,400,000, what are the expenses for division R ?

(1) $x = 94$
(2) The total expenses for divisions S and T are twice as much as the expenses for division R.

6. What is the value of $\frac{1}{k}+\frac{1}{r}$?

(1) $k + r = 20$
(2) $kr = 64$

7. A number of people each wrote down one of the first 30 positive integers. Were any of the integers written down by more than one of the people?

(1) The number of people who wrote down an integer was greater than 40.
(2) The number of people who wrote down an integer was less than 70.

8. If d denotes a decimal, is $d \geqslant 0.5$?

(1) When d is rounded to the nearest tenth, the result is 0.5.
(2) When d is rounded to the nearest integer, the result is 1.

9. How many of the 60 cars sold last month by a certain dealer had neither power windows nor a stereo?

(1) Of the 60 cars sold, 20 had a stereo but not power windows.
(2) Of the 60 cars sold, 30 had both power windows and a stereo.

10. In the xy-plane, does the point (4, 12) lie on line k ?

(1) The point (1, 7) lies on line k.
(2) The point (-2, 2) lies on line k.

11. What was the total amount of revenue that a theater received from the sale of 400 tickets, some of which were sold at x percent of full price and the rest of which were sold at full price?

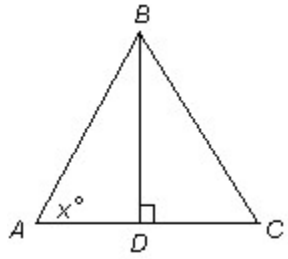
(1) $x = 50$
(2) Full-price tickets sold for $20 each.

12. If x, y, and z are nonzero numbers, is $xz = 12$?

(1) $x^2yz = 12xy$
(2) $\frac{z}{4}=\frac{3}{x}$

13. When a player in a certain game tossed a coin a number of times, 4 more heads than tails resulted. Heads or tails resulted each time the player tossed the coin. How many times did heads result?

(1) The player tossed the coin 24 times.
(2) The player received 3 points each time heads resulted and 1 point each time tails resulted, for a total of 52 points.



14. What is the area of triangular region ABC above?

(1) The product of BD and AC is 20.
(2) $x = 45$

15. What is the value of $36{,}500(1.05)^n$?

(1) $n^2 - 5n + 6 = 0$
(2) $n - 2 \neq 0$

16. The inflation index for the year 1989 relative to the year 1970 was 3.56, indicating that, on the average, for each dollar spent in 1970 for goods, \$3.56 had to be spent for the same goods in 1989. If the price of a Model K mixer increased precisely according to the inflation index, what was the price of the mixer in 1970 ?

(1) The price of the Model K mixer was \$102.40 more in 1989 than in 1970.
(2) The price of the Model K mixer was \$142.40 in 1989.

17. Every member of a certain club volunteers to con-tribute equally to the purchase of a \$60 gift certificate. How many members does the club have?

(1) Each member's contribution is to be \$4.
(2) If 5 club members fail to contribute, the share of each contributing member will increase by \$2.

18. While driving on the expressway, did Robin ever exceed the 55-miles-per-hour speed limit ?

(1) Robin drove 100 miles on the expressway.
(2) Robin drove for 2 hours on the expressway.

19. Is n an integer ?

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

20. Is x negative ?

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

Section 21
25 Minutes 20 Questions

1. What is 5 percent of x ?

(1) $x = 200$
(2) 10 percent of x is 20.

2. For which type of investment, J or K, is the annual rate of return greater ?

(1) Type J returns \$115 per \$1,000 invested for any one-year period and type K returns \$300 per \$2,500 invested for any one-year period.
(2) The annual rate of return for an investment of type K is 12 percent.

3. What is the value of $\left(\frac{a}{b}\right)^n$

(1) $a^n = 32$
(2) $b^n = 243$

4. What is the tenths digit of the decimal d ?

(1) $d = \frac{7}{25}$
(2) d is 28 percent of 1.

5. Is $a = 0$?

(1) $ab = 0$
(2) $a^2 = 0$

6. What percent of the drama club members enrolled at a certain school are female students ?

(1) Of the female students enrolled at the school,40 percent are members of the drama club.
(2) Of the male students enrolled at the school, 25percent are members of the drama club.

7. What is the perimeter of rectangle R ?

(1) R is a square.
(2) The area of R is 36.

8. Carmen currently works 30 hours per week at her part-time job. If her gross hourly wage were to increase by \$1.50, how many fewer hours could she work per week and still earn the same gross weekly pay as before the increase ?

(1) Her gross weekly pay is currently \$225.00.
(2) An increase of \$1.50 would represent an increase of 20 percent of her current gross hourly wage.

9. In a serving of a breakfast cereal that contains only oats, raisins, and nuts, the ratio of oats to raisins to nuts by weight is 3 to 2 to 1, respectively.
How many ounces of raisins are in the serving ?

(1) The serving weighs 4 ounces.
(2) The serving contains 2 ounces of oats.

10. Is $x > 0$

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

11. A taxi company charges f cents for the first mile of a taxi ride and m cents for each additional mile. How much does the company charge for a 10-mile taxi ride ?

(1) The company charges \$0.90 for a 2-mile ride.
(2) The company charges \$1.20 for a 4-mile ride.

12. What was the discounted price of a certain television set ?

(1) The original price of the television set was \$50 more than the discounted price.
(2) The original price of the television set was 110 percent of the discounted price.

13. If $x > 0$, is $\frac{x}{y} > x$?

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

14. Is n an integer?

(1) $2n$ is an integer.

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

15. At what speed was a train traveling on a trip when it had completed half of the total distance of the trip?

(1) The trip was 460 miles long and took 4 hours to complete.
(2) The train traveled at an average rate of 115 miles per hour on the trip.

16. If r and s are integers, is $r^2 + s$ even ?

(1) The product rs is odd.
(2) r is odd.

17. What is the volume of a certain rectangular solid?

(1) Two adjacent faces of the solid have areas 15 and 24, respectively.
(2) Each of two opposite faces of the solid has area 40.

18. Is $x > y$?

(1) ax > ay
(2) $a^2x > a^2y$

19. If n is a positive integer and $k = 5.1\times10^n$, what is the value of k ?

(1) $6{,}000 < k < 500{,}000$
(2) $k^2 = 2.601\times10^9$

20. What is the average (arithmetic mean) of $3x$ and $6y$?

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

Section 22
25 Minutes 20 Questions

1. What is the capacity, in liters, of a certain aquarium ?

(1) Three liters is $\frac{1}{2}$ of the capacity of the aquarium.
(2) One-half liter is $\frac{1}{12}$ of the capacity of the aquarium.

2. What is the value of n ?

(1) $\sqrt{n} = 2$
(2) $\sqrt{4n} = 4$

3. In $\triangle$PQR, what is the measure of angle P?

(1) Angle Q is a right angle.
(2) The measure of angle R is 17°

4. What amount did Jean earn from the commission on her sales in the first half of 1988 ?

(1) In 1988 Jean's commission was 5 percent of the total amount of her sales.
(2) The amount of Jean's sales in the second half of 1988 averaged $10,000 per month more than in the first half.

5. A certain car traveled from one town to another without stopping. What was the car's average speed for the trip ?

(1) The car traveled the 90-mile trip in 2 hours.
(2) The car traveled the first 40 miles of the trip in 1 hour.

6. What is the value of x ?

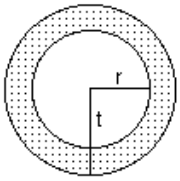
(1) $2x + 3y = 12$
(2) $5x + 7y = 29$

7. Does $x = y$?

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

8. Dan took a 20-question multiple-choice test in psychology. If Dan answered every question, did he answer at least 12 questions correctly?

(1) Dan answered fewer than 40 percent of the questions incorrectly.
(2) Dan answered at least 25 percent of the questions incorrectly.



9. The figure above shows the circular cross section of a concrete water pipe. If the inside radius of the pipe is r feet and the outside radius of the pipe is t feet, what is the value of r ?

(1) The ratio of $t - r$ to r is 0.15 and $t - r$ is equal to 0.3 foot.
(2) The area of the concrete in the cross section is 1.29π square feet.

10. If a < x < b and c < y < d. is x < y ?

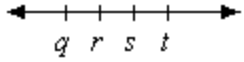
(1) $a < c$
(2) $b < c$

11. Is $\frac{3x+8}{x+2}$ an integer ?

(1) x is an integer.
(2) $x = 0$

12. How many people did Apex Company employ in 1990 ?

(1) The company employed 538 more people in 1991 than in 1990.
(2) The company employed 20 percent more people in 1991 than in 1990.



13. Of the four numbers represented on the number line above, is r closest to zero?

(1) q = -s
(2) -t < q

14. Is the integer n divisible by 20 ?

(1) n is divisible by 5.
(2) n is divisible by 6.

15. If Mark saved an average (arithmetic mean) of $80 per week for 3 consecutive weeks, how much did he save the second week?

(1) The average amount that Mark saved per week for the first 2 weeks was $60.
(2) The amount that Mark saved the first week was $\frac{1}{2}$ the amount he saved the second week and $\frac{1}{3}$ the amount he saved the third week.

16. If p and q are positive integers, what is the value of q ?

(1) $q^{p-1} = 1$
(2) $p = 1$

17. If $x \neq -1$, which is greater, $\frac{1}{x+1}$ or $\frac{x}{2}$?

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

18. In a certain two-digit integer, the ratio of the units digit to the tens digit is 2 to 3, What is the integer ?

(1) The tens digit is 3 more than the units digit.
(2) The product of the two digits is 54.

19. If Carmen had 12 more tapes, she would have twice as many tapes as Rafael. Does Carmen have fewer tapes than Rafael?

(1) Rafael has more than 5 tapes.
(2) Carmen has fewer than 12 tapes.

20. What is the value of $\frac{2t+t-x}{t-x}$?

(1) $\frac{2t}{t-x} = 3$
(2) $t - x = 5$