Leap Frog Relay 6-8 – I – 2006

No calculators allowed
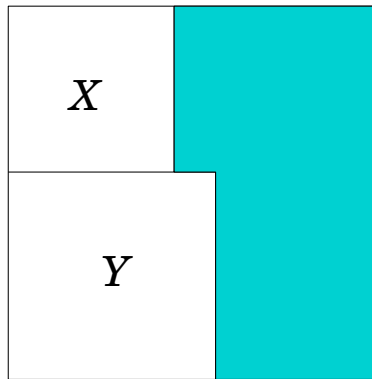**Correct Answer = 4, Incorrect Answer = −1, Blank = 0**

<u>Please do not turn over until you are told to do so</u>

1. Today is Saturday. What day of the week was the day exactly 500 days ago?

   (a) Monday   (b) Tuesday

   (c) Wednesday   (d) Thursday

   (e) Friday

2. A large square contains squares X and Y as shown below. The area of square X is 16 square inches, the area of square Y is 25 square inches. How many square inches is the area of the shaded region?

   (a) 9   (b) 18
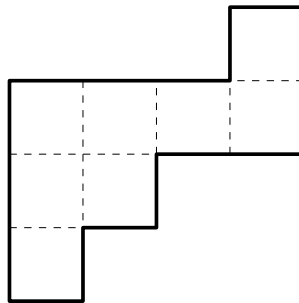
   (c) 36   (d) 40

   (e) 41

3. Of all Math Club members at CSU Fresno, 70% own a computer and 50% own a car. However, 10% of all Math Club members own neither a computer nor a car. What percent of all Math Club members own both a computer and a car?

   (a) 10%   (b) 20%

   (c) 30%   (d) 40%

   (e) 50%

4. The cafeteria sells each orange at one price and each banana at another price. For 4 oranges and 2 bananas Yolanda pays $2.70. For 3 bananas and 1 orange Soua pays $2.05. Fernando buys 2 oranges and 2 bananas. How much does he have to pay?

(a) $1.75

(b) $1.80

(c) $1.85

(d) $1.90

(e) $1.95

5. A tractor has a 22 gallon gasoline tank. It runs out of gasoline when it is done plowing $\frac{3}{4}$ of a field. How many gallons of gasoline does the tractor need to plow the whole field?

(a) $22\frac{1}{4}$

(b) 23

(c) $29\frac{1}{3}$

(d) $32\frac{2}{3}$

(e) $38\frac{1}{2}$

6. The figure shown consists of 8 congruent squares. The area of the figure is 72 square cm. What is the perimeter of the figure, in cm?

(a) 8

(b) 16

(c) 24

(d) 32

(e) 48

7. At an elementary school the first class starts at 7:50 AM and the fourth class ends at 11:36 AM. There are 6 minutes between classes and each class is the same length. How many minutes are there in one class period?

   (a) 52   (b) 53

   (c) 54   (d) 55

   (e) 56

8. During a trip by car on a highway, Antonio passed the 152 mile marker at 9:20 AM and the 176 mile marker at 9:52 AM. His speed was constant for that part of the trip. At what time did he pass the 170 mile marker?

   (a) 9:38 AM   (b) 9:40 AM

   (c) 9:42 AM   (d) 9:44 AM

   (e) 9:46 AM

9. Andrea and Kim were playing Chinese Checkers. Andrea won 40% of the games. Kim won 18 games. There were no ties. How many more games did Kim win than Andrea?

   (a) 2   (b) 3

   (c) 4   (d) 5

   (e) 6

10. Jeremy is a 60% free throw shooter in basketball. He has a chance to throw 2 free throws. What is the probability that he makes at least one of the two throws?

    (a) 60%   (b) 80%

    (c) 82%   (d) 84%

    (e) 90%

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1. An average person has about one heartbeat per second. How long does it take for an average person to have 1 million heartbeats?

   (a) about 2 hours

   (b) about 2 days

   (c) about 2 weeks

   (d) about 2 months

   (e) about 2 years

2. In a chess-tournament between Mighty Juniors and Clever Youngsters, the team of Mighty Juniors won 76% of the games. The Clever Youngsters won 6 games. There were no ties. How many games were won by the Mighty Juniors?

   (a) 17

   (b) 19

   (c) 21

   (d) 23

   (e) 25

3. The sum of 9 consecutive integers is 153. What is the product of the smallest and the largest of these integers?

   (a) 240

   (b) 273

   (c) 289

   (d) 340

   (e) 420

4. Jerry plans to roll a pair of dice. What is the probability of obtaining 6 as the product of the two numbers showing on the two dice?

   (a) $\dfrac{1}{36}$

   (b) $\dfrac{1}{6}$

   (c) $\dfrac{1}{3}$

   (d) $\dfrac{1}{9}$

   (e) $\dfrac{1}{18}$

5. An isosceles right triangle contains square A as shown. The area of square A is 49 square inches. How many square inches is the area of the isosceles triangle?

(a) $73\frac{1}{2}$ (b) 98

(c) 112   (d) 147

(e) $312\frac{1}{2}$

6. The weatherman claims that the chance of rain is 20% on Monday and 40% on Tuesday. Assuming that the weatherman is right, what is the probability that it will rain on Monday but will not rain on Tuesday?

(a) 12%   (b) 18%

(c) 20%   (d) 30%

(e) 32%

7. In the addition example shown below, different letters represent different digits. What digit does letter M represent?

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    S  E  N  D
 +  M  O  R  E
 ─────────────
 M  O  N  E  Y
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(a) 1   (b) 2

(c) 3   (d) 4

(e) 5

8. Figure $ABCD$ is a rectangle. Its area is 120 square centimeters. If $AP = 3$ cm, $CD = 10$ cm, $BQ = 8$ cm, what is the area of the shaded region $PBQD$ in square centimeters?

(a) 82

(b) 86

(c) 95

(d) 99

(e) 104

9. At a market, the price of a rabbit is one third of the price of a turkey, and you can buy 12 rabbits for the price of a small sheep. How many turkeys can you get for the price of two small sheeps?

(a) 6

(b) 7

(c) 8

(d) 9

(e) 10

10. There are 3-legged and 4-legged chairs in a room. The total number of chairs in the room is 28, the total number of chair legs is 95. How many more 3-legged chairs than 4-legged chairs are there in the room?

(a) 3

(b) 4

(c) 5

(d) 6

(e) 7