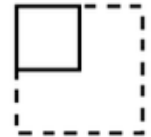


Level 1

1. The little kangaroo was sick. Dr. Ohpain prescribed three pills for him to take one at a time every 20 minutes. How many minutes after taking the first pill will the little kangaroo take the last pill?

A. 20 B. 30 C. 40 D. 50 E. 60

2. A person needs 12 minutes to walk around a square plaza. How much time will it take for the same person to walk at the same pace around a plaza that has an area that is four times greater?



A. 48 minutes
B. 24 minutes
C. 30 minutes
D. 20 minutes
E. 36 minutes

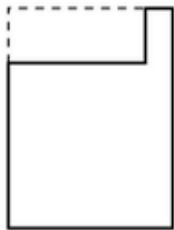
3. Which four digits need to be removed from the number 4921508 to get the smallest possible three-digit number?

A. 4, 9, 2, 1 B. 4, 2, 1, 0 C. 1, 5, 0, 8 D. 4, 9, 2, 5 E. 4, 9, 5, 8

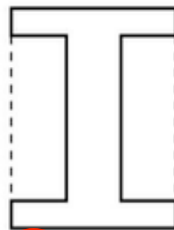
4. Each of five neighbors owns a rectangular plot of land with the same area. The parts of the land with flowers growing on them are fenced in (solid line in the pictures). Who has the longest fence?



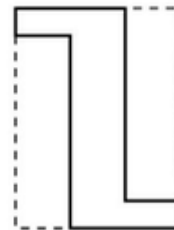
A. Mr. Adam



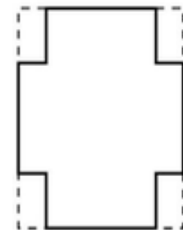
B. Mr. John



C. Mr. Jack

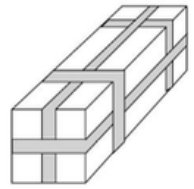


D. Mr. Peter



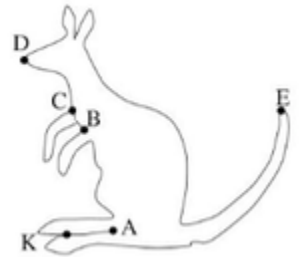
E. Mr. Mark

5. Ania's birthday present is placed in a box with dimensions of 10cm x 10cm x 30cm and wrapped with a ribbon as shown in the picture. What is the length of the ribbon?



- A. 2m B. 240cm C. 260cm D. 3m E. 250cm

6. Pete wanted to draw the picture of a kangaroo without lifting his pencil from the paper and without going over the same line twice. At what point should he start (see the picture)?



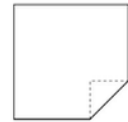
- A. A
B. B or C
C. D or E
D. K
E. There is no such point; this is impossible.

Level 2

1. The number $-11 - 2(-7)$ is equal to

- A. 3
 B. -3
 C. -25
 D. 25
 E. 16

2. One of the corners of a square was folded (see the picture). Two other corners of the square were then folded the same way. How many vertices does the figure formed in this way have?

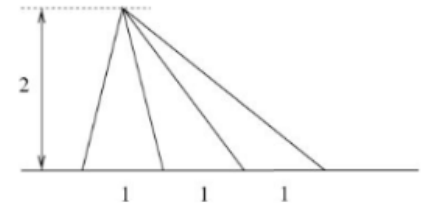


- A. 3
 B. 4
 C. 5
 D. 6
 E. 7

3. If $A - 1 = B + 2 = C - 3 = D + 4 = E - 5$, then which of the numbers A, B, C, D , and E is the greatest?

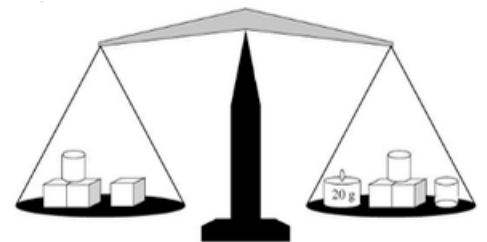
- A. A
 B. B
 C. C
 D. D
 E. E

4. What is the sum of the areas of all the triangles you can see in the picture to the right?



- A. 4
 B. 5
 C. 7
 D. 8
 E. 10

5. The scale shown in the picture is in balance. On the scales there is a 20g weight and certain solids: cubes and cylinders. All the solids (cubes and cylinders) together weigh 500g. How much does one cube weigh?



- A. 40g
 B. 50g
 C. 60g
 D. 70g
 E. 80g

6. The body of a certain caterpillar is made of five spherical parts, three of which are yellow and two are green. What is the greatest possible number of different types of this caterpillar that could exist?

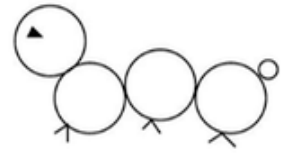
A. 6

B. 8

C. 9

D. 10

E. 12

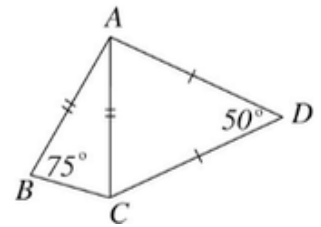


Level 3

1. 80% of the area of a photo was black and 20% was white. The photo was enlarged three times. What part of the enlarged photo is white?

A. 20% B. 30% C. 40% D. 60% E. 80%

2. In the picture, $|AD| = |DC|$, $|AB| = |AC|$, and the measures of the angles ABC and ADC are 75° and 50° respectively. What is the measure of angle BAD ?



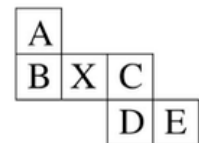
A. 30° B. 85° C. 95° D. 125° E. 140°

3. Each of the letters A, G, K, N, O, and R covers a digit. Different letters cover different digits. What is the value of the expression

$$10^4(\text{AROO} - \text{KANG}) + \text{KANGAROO}?$$

A. AROOAROO B. AROOKANG C. KANGKANG
 D. KANGAROO E. KAGANROO

4. A cube was made out of the pattern shown to the right. What letter will mark the side opposite the side marked with X?

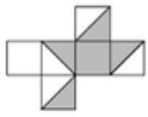


A. A B. B C. C D. D E. E

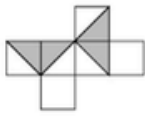
5. Anna got a box with 2,000 beads. Each of the beads is one of five colors. There are 387 white beads, 396 yellow beads, 105 red beads, 407 green beads, and 705 brown beads. Without looking into the box, Anna takes out three beads at random. If they are the same color, she strings them onto a thread. Otherwise, she puts them back in the box. At the end, there are only two beads left in the box. What color are they?

A. white B. yellow C. red D. green E. brown

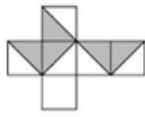
6. The pictures below show the patterns of five cubes. Which of them has the property that wherever two sides touch, the color along those edges is the same (this does not mean that the whole side is one color)?



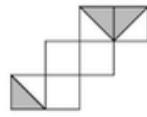
A.



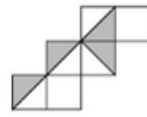
B.



C.



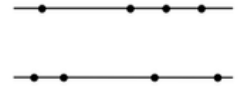
D.



E.

Level 4

1. There are four points marked on each of two lines (see the picture). How many triangles are there that have vertices on these points?

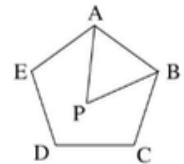


A. 6 B. 12 C. 24 D. 36 **E. 48**

2. Peter took a quiz consisting of 40 questions. He gets 0.5 points for every correct answer, and loses 1 point for every wrong answer. Peter answers all the questions and received a score of 2 points. How many questions did he answer correctly?

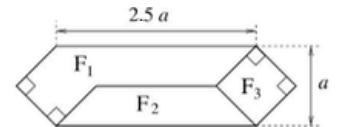
A. 25 B. 26 C. 27 **D. 28** E. 29

3. The picture to the right shows a regular pentagon $ABCDE$ and an equilateral triangle ABP . What is the measure of angle BCP ?



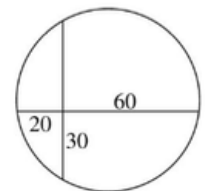
A. 45° B. 54° C. 60° **D. 66°** E. 72°

4. What is the ratio of the areas of field F_1 to field F_2 in the picture?



A. 2:1 B. 2:3 C. 3:2 **D. 4:3** E. 5:3

5. While swimming in a lake shaped like a circle, I ended up at a point where to get to the shore to the west, east, or south I had to swim 20m, 60m, or 30m respectively. How far was I from the north shore? (See the picture.)



A. 70m B. 60m C. 50m **D. 40m** E. 30m

6. What is the sum of the roots of this equation?

$$||1 - |x|| - 5| = 4 - \frac{1}{3}|x|$$

A. -3

B. -2

C. -1

D. 0

E. 1

Level 5

1. Bart was supposed to multiply together two two-digit numbers. Unfortunately, he made a mistake and multiplied the first number by a number made by switching the digits in the second number. The result was 3816 larger than the result of multiplying the correct numbers would have been. What would the result have been if Bart had not made this mistake?

A. 7632 B. 5724 C. 4823 D. 1908 E. 1007

2. Let \overline{xyz} be a three-digit number where x is the hundreds digit, y is the tens digit, and z is the ones digit. Suppose that $x > z > 0$ and that the hundreds digit of the number $N = \overline{xyz} - \overline{zyx}$ is 4. Then, the tens digit and the ones digit of number N are respectively

A. 5 and 9 B. 9 and 5 C. impossible to calculate
 D. 5 and 4 E. 4 and 5

3. Matt is saving money for a computer for \$5,400. When he was asked how much money he had saved up, he said, "If I had $\frac{1}{5}$ more money than I have now, I would need $\frac{1}{4}$ less than I need right now." How much money does Matt have right now?

A. \$600 B. \$1,200 C. \$2,400 D. \$3,000 E. \$3,200

4. Cities A and B are in different time zones. An airplane flying from A to B takes off at 6:00 AM on Monday local time and lands at 2:00 PM on Tuesday local time. Going back, the plane takes off from city B at 1:00 PM Thursday local time and lands at 3:00 PM Thursday local time. The plane travels at the same speed both ways. If it is 4:00 PM on Saturday in city A, then in city B it is

A. 6:00 PM on Sunday
 B. 7:00 PM on Saturday
C. 6:00 AM on Sunday
 D. 7:00 AM on Sunday
 E. 7:00 PM on Sunday

5. After landing on Mars, a space probe found a Martian village. The Martians were about 1 m tall. Each was green, red, or blue, and had two to five hands. They also had three to twenty antennas on their heads. At least how many Martians should there be in the village so that they could be sure to have a team of 11 identical looking Martians (in the same color and with the same number of hands and antennas) to play soccer against Earth?

A. 216

B. 217

C. 2,160

D. 2,161

E. 2,375

6. When using a balance scale, the mass of an object is determined by placing the object to be weighed on one side of the scale and the weights on the other side, or by adding weights to both sides, and trying to get the sides of the scale to balance. We want to find the mass of an object whose weight is expressed by a whole number between 1 gram and 10 grams (inclusive). What is the minimum number of weights that we need?

A. 2

B. 3

C. 4

D. 5

E. 10