

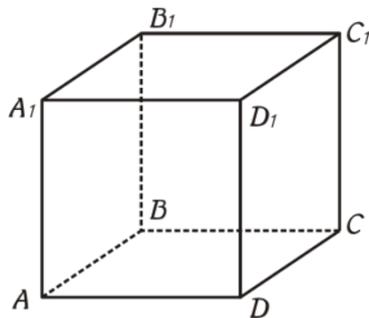


SmartCo Math Olympiad

Category 4 (Grades 9–10-11)

Section A: Geometry (7 Questions)

1. In the figure, a cube with edge length 4 cm is shown. Find the length of the diagonal (AC₁)



A) $4\sqrt{3}$

C) $\frac{4}{\sqrt{3}}$

B) $4\sqrt{2}$

D) $\frac{4}{\sqrt{2}}$

2. If today is Saturday, what day of the week will it be after 300 days?

A) Thursday

C) Saturday

B) Friday

D) Sunday

3. A box contains 3 white balls and 4 black balls. A boy randomly draws two balls one after another *without replacement*. What is the probability that the first ball is white and the second ball is black?

A) $\frac{1}{7}$

C) $\frac{3}{7}$

B) $\frac{2}{7}$

D) $\frac{4}{7}$

4. A man met a devil who lived under a bridge. Each time the man crossed the bridge, his money doubled, but he had to give the devil 24 som. The man crossed the bridge three times. After the third time, he had exactly 24 som left, which he gave to the devil.

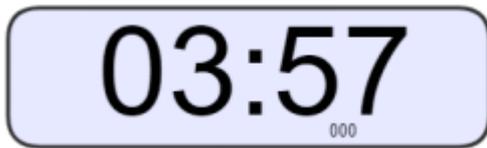
How much money did the man have at the beginning?

- A) 18 C) 30
B) 21 D) 36

5. How many handshakes are there among 10 friends if each person shakes hands with every other person exactly once?

- A) 10 C) 45
B) 20 D) 90

6. At the time mentioned in the picture , the sum of all digits is equal to 15. After how many minutes will the sum of all digits be 15 again



- A) 15 C) 30
B) 17 D) 32

7. If the sum of seven consecutive positive odd numbers starting with 3 is x , and the sum of seven consecutive positive odd numbers starting with 5 is y , what is the value of $y-x$?

- A) 7 C) 14
B) 12 D) 21