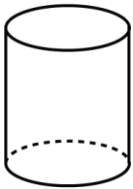


Mathematica Centrum

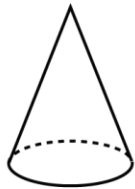
Together, let's shape the mathematicians of the future

FIBONACCI PREPARATORY TEST 2018

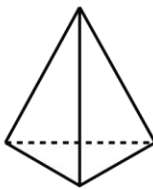
1. Which solid has 12 edges?



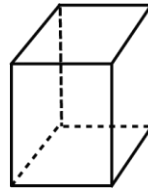
A



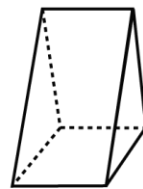
B



C



D



E

2. How many \$5 cereal boxes can you buy with \$24?

A) 3

B) 5

C) 4

D) 2

E) 6

3. The value of X in the following equation: $2 + 9 + X + 3 - 2 = 13$ is

A) 1

B) 3

C) 2

D) 4

E) 0

4. The quotient of $210 \div 70$ is

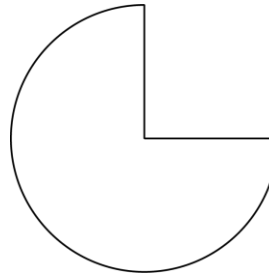
A) 2

B) 3

C) 5

D) 4

E) 6



5. What fraction of the pie has been eaten?

A) $1/6$

B) $1/5$

C) $1/4$

D) $1/3$

E) $1/2$

6. The value of the ? in the equation: 20 quarters = ? quarters + 40 dimes is

A) 6

B) 7

C) 8

D) 5

E) 4

7. The tens digit in the product of 9×15 is

A) 5

B) 3

C) 1

D) 2

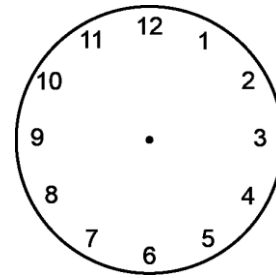
E) 4

17. The sum of two consecutive odd numbers is 16. What is their product?

- A) 64 B) 35 C) 63
 D) 56 E) 99

18. If the minute hand of a clock goes around 60 times, how many times will the hour hand go around?

- A) 5 times B) 1 time C) 20 times
 D) 60 times E) 2 times

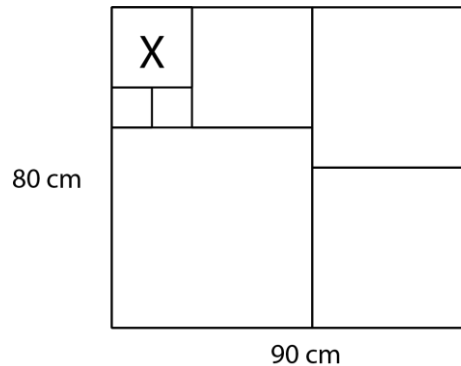


19. A bag contains 4 red balls, 3 green balls, and 2 blue balls. If you randomly choose one of these balls, what is the probability that the ball chosen is blue?

- A) $\frac{2}{6}$ B) $\frac{2}{9}$ C) $\frac{2}{5}$
 D) $\frac{2}{3}$ E) $\frac{1}{2}$

20. Melissa has used square tiles to completely cover a 80 cm x 90 cm rectangular surface. What is the length of the side of tile X?

- A) 30 cm B) 20 cm C) 25 cm
 D) 10 cm E) 15 cm



21. The greatest common factor of 3, 6, and 12 is

- A) 1 B) 2 C) 3 D) 4 E) 5

22. If $1^2 = 1$, $2^2 = 4$, $3^2 = 9$, then $4^2 + 5^2 = ?$

- A) 41 B) 39 C) 40 D) 38 E) 42

23. A pile of 100 identical sheets of paper is 4 cm high. What is the thickness of one sheet of the same paper?

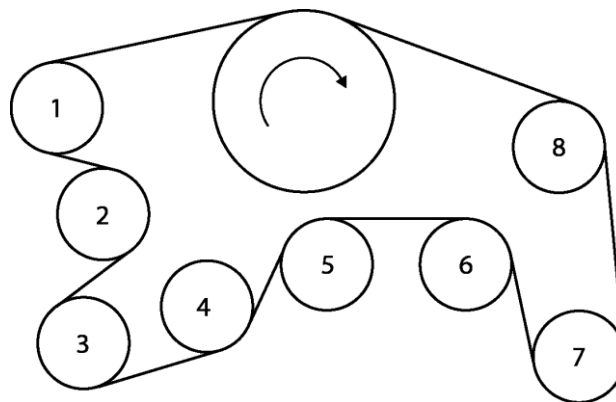
- A) 0.4 cm B) 0.04 cm C) 40 mm D) 0.4 dm E) 400 mm

24. I have \$100. If I increase this amount by 50% and then increase this new amount by another 50%, how much will I have after the second increase?

- A) \$220 B) \$180
 C) \$200 D) \$225
 E) \$240

25. The big wheel turns in a clockwise direction and can transfer its energy to the other wheels by means of a belt. Which wheels turn in a clockwise direction?

- A) 2 - 5 - 6 B) 4 - 7 - 8 - 5
 C) 1 - 3 - 4 - 7 - 8 D) 1 - 7 - 4 - 2
 E) 4 - 5



26. If N is a natural number and $N + 3$ is an odd number, which of the following is also an odd number?
- A) $3 \times N + 2$ B) $3 \times N + 3$ C) $2 \times N$ D) $N + 6$ E) $2 \times N + 4$
27. The average of three different odd numbers M , N , and P is 9. If $M = 13$, what is the greatest possible value of P ?
- A) 15 B) 17 C) 19 D) 13 E) 11
28. Mathusalem has paid \$30 for glass containers costing \$3 and \$2 each. How many \$3 containers could he have bought?
- A) 8 B) 5 C) 9 D) 12 E) 7