

WereldWijde WiskundeWedstrijd **W4Kangoeroe**

WWW.W4KANGOEROE.NL

**THURSDAY
MARCH 17TH 2022**

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*Good luck and most of
all have fun!*



calculators are not
allowed



you may use
75 minutes



only a pencil, an
eraser and scribbling
paper are allowed



results and prizes will
arrive at school at
the end of May



answers will be posted
on the website about
March 29th



solutions will be
posted on the website
about April 20th

wizPROF
havo 4 & 5
vwo 3, 4, 5 & 6

zwijse n

Breng leren tot leven
www.zwijsen.nl



www.e-nemo.nl

TEXAS
INSTRUMENTS

www.education.ti.com



www.smart.be

Schoolsupport 

www.schoolsupport.nl

ID Premiums Relatiegeschenken b.v.
Relatiegeschenken & Promotieartikelen
www.idpremiums.nl



www.mathplay.eu



www.ru.nl

 cuttle.org

www.cuttle.org

platform
wiskunde nederland

www.platformwiskunde.nl



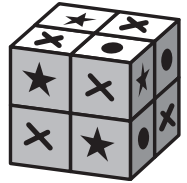
www.museumboerhaave.nl

24. A group of pirates distributes a treasure of 200 gold and 600 silver pieces. Each officer gets 5 gold and 10 silver pieces. Each sailor gets 3 gold and 8 silver pieces. Each servant gets 1 gold piece and 6 silver pieces.

How many pirates (officers, sailors and servants) are there in the group?

- A. 50 B. 60 C. 72 D. 80 E. 90

25. In each of the four squares on each face of a $2 \times 2 \times 2$ cube, one of the following shapes is drawn: a circle, star or cross. Two squares with a common side never contain the same shape. The picture shows an example of such a cube.



How many circles, stars and crosses are there on a $2 \times 2 \times 2$ cube?

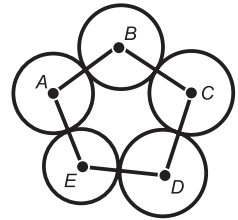
- A. 5 circles, 8 stars and the rest are crosses B. 6 circles, 8 stars and the rest are crosses
 C. 7 circles, 7 stars and the rest are crosses D. 7 circles, 8 stars and the rest are crosses
 E. none of the answers above

26. The inhabitants of a particular city speak by asking questions. Some residents are positive; they always ask questions to which the answer is "yes". The other inhabitants are negative; to their questions the answer is always "no". *Bertha* asks the question, "Are my husband *Albert* and I both negative?"

What is true for this couple?

- A. both are positive B. both are negative
 C. *Albert* is positive, *Bertha* negative D. *Albert* is negative, *Bertha* positive
 E. you cannot know

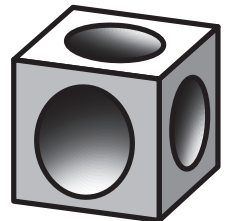
27. The circles with centers *A*, *B*, *C*, *D* and *E* touch each other. It is given that $AB = 16$, $BC = 14$, $CD = 17$, $DE = 13$ and $AE = 14$.



What is the center of the circle with the greatest radius?

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

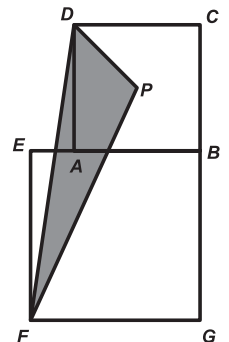
28. Identical hemispheres are drilled into each of the faces of a cube. The centers of the spheres are the centers of the side faces. The hemispheres are made as large as possible and touch their neighboring spheres at only one point. The side of the cube is 2.



What is the diameter of the hemispheres?

- A. 1 B. $\sqrt{\frac{3}{2}}$ C. $\sqrt{2}$ D. $\frac{3}{2}$ E. 2

29. The diagonals of the squares *ABCD* and *EFGB* are 7 and 10 cm long respectively. The diagonals of *ABCD* intersect at point *P*.



How many cm^2 is the area of triangle *FPD*?

- A. 14,5 B. 15 C. 15,75 D. 16,5 E. 17,5

30. The product of the digits of a positive integer *N* is 20.

What **cannot** be the product of the digits of $N + 1$?

- A. 24 B. 25 C. 30 D. 35 E. 40