

SUPERSTARS III
Neptune, XIX

Name: _____
(This shows my own thinking.)

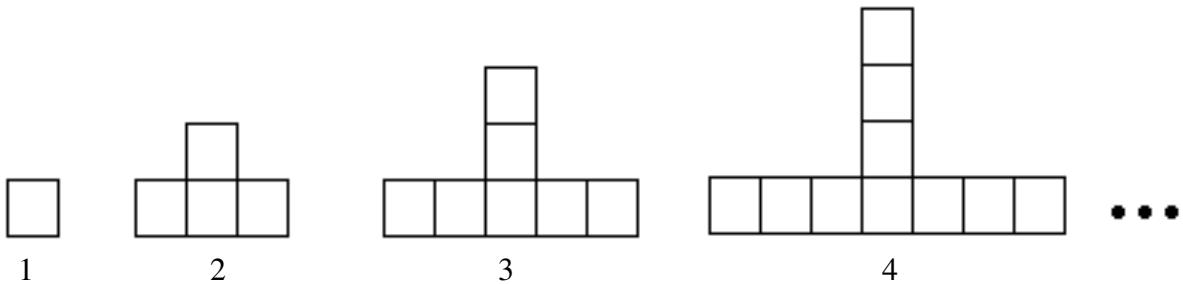
★★ 1. Which whole number values make this inequality true? Circle your choice.

$$\frac{X}{2} < 10$$

- a) $X = 19, 20, \text{ or } 21$ c) $X = 0, 1, 2, \dots, 19$
b) $X = 41, 42, 43$ d) $X = 21, 22, 23, \dots$

★★★★ 2. The figures below form a pattern of squares. The *area* of the 1st figure is $\frac{1}{16}$ inch².

- a. What is the *perimeter* of the 1st figure? _____ inch
b. What is the *area* of the 3rd figure? _____ inch²
c. What is the *perimeter* of the 3rd figure? _____ inches
d. What is the *area* of the 10th figure in the pattern? _____ inches²



★★★ 3. The scale on a map is: $1 \text{ inch} = 16 \text{ miles}$. A National Park is represented on this map by a square whose side is $\frac{1}{8}$ inch. What is the actual area of the park in square miles.

Answer: _____ sq. mi.

★★ 4. If $X + 2 = Y$ and $Y + 1 = 5$, then $X =$ _____.

Answer: _____

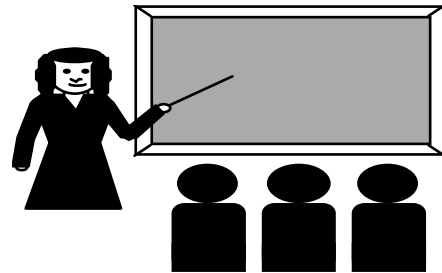
★★★ 5. If $280 = N$, then $350 =$ _____.

- a) $\frac{N}{4}$ c) $\frac{4N}{3}$
 b) $\frac{4N}{5}$ d) $\frac{5N}{4}$

Answer: _____

★★ 6. In a class of 30, 12 are boys. If 6 more boys join the class, what per cent of the class is then boys?

Answer: _____ %

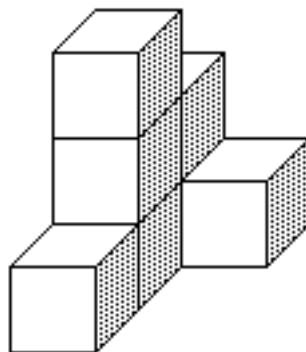


★★★ 7. In the correct addition shown below, A, B, and C are different non-zero digits. What is the value of C?

$$\begin{array}{r} B B \\ + B B \\ \hline A B C \end{array}$$

Answer: _____

★★★ 8. The figure below is made by gluing together 7 cubes. If the figure is dipped in a bucket of red paint and allowed to dry, how many square faces will have paint on them?



Answer: _____