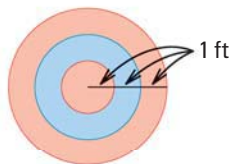




Lessons 12.1–12.3

MULTIPLE CHOICE

1. **TARGETS** A target has red and blue rings that alternate in color. The three innermost rings of the target are shown below. Which expression is a series that gives the total area A of the target's n blue rings? **TEKS a.2**



The 3 innermost rings of the target

- (A) $A = \sum_{i=1}^n (2i - 1)\pi$
- (B) $A = \sum_{i=1}^n (4i - 3)\pi$
- (C) $A = \sum_{i=1}^n (4i - 1)\pi$
- (D) $A = \sum_{i=1}^n i^2\pi$
2. **SALARY** Maria has an annual salary of \$45,000 during her first year of employment. Her salary increases 3.5% per year. What will Maria's salary be during her 5th year of employment? **TEKS a.1**
- (F) \$49,672
- (G) \$51,241
- (H) \$51,639
- (J) \$53,446
3. **CONSTRUCTION** A staircase is being built that leads from the ground to an elevated deck. The base of the staircase is a concrete slab that is 2 inches tall. Each stair is 7 inches tall. What is the height of the bottom of the 10th stair? **TEKS a.1**
- (A) 60 inches
- (B) 65 inches
- (C) 70 inches
- (D) 72 inches

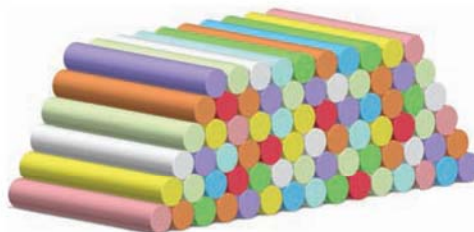
4. **SEATING ARRANGEMENT** At a restaurant, rectangular tables are placed together along their shared edges, as shown in the diagram below. How many people can be seated around 8 tables arranged in this way? **TEKS a.1**



- (F) 30 people
- (G) 32 people
- (H) 34 people
- (J) 36 people

GRIDDED ANSWER

5. **STACKED PILES** Pieces of chalk are stacked in a pile. Part of the pile is shown below.



The bottom row has 15 pieces of chalk and the top row has 6 pieces of chalk. Each row has one less piece of chalk than the row below it. How many pieces of chalk are in the pile? **TEKS a.1**

6. **RADIOACTIVE DECAY** A scientist is studying the radioactive decay of Platinum-197. The scientist starts with a 66 gram sample of Platinum-197 and measures the amount remaining every two hours. The recorded amounts (in grams) are 66, 33, 16.5, 8.25, . . . After how many hours will the scientist first measure the sample and find that there is less than 1 gram left? **TEKS a.1**