

1. One number in this pattern is wrong.

22	26	30	36	38	42
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What change should be made to correct this pattern?

- A replace 26 with 24
- B replace 26 with 28
- C replace 36 with 34
- D replace 42 with 40

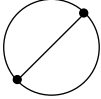
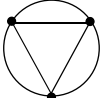
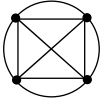
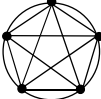
2. A radio station will announce the winner of a contest when 3,200 callers have called the station. This chart shows the total number of calls received for the first four hours.

Time	Total Number of Calls
2:00 p.m.	200
3:00 p.m.	400
4:00 p.m.	650
5:00 p.m.	950
6:00 p.m.	1,300

If the pattern continues, when will the radio station announce a winner?

- A 8:00 p.m.
- B 9:00 p.m.
- C 10:00 p.m.
- D 11:00 p.m.

3. The chart shows the greatest number of line segments that can connect various numbers of points on a circle.

Figure	Number of Points	Number of Line Segments
	2	1
	3	3
	4	6
	5	10

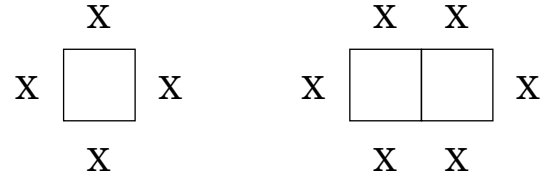
Based on the number pattern, how many line segments will connect 8 points?

- A 16
- B 21
- C 25
- D 28

4. The art teacher wants to arrange 36 pictures on the wall so that one is in the first row, two are in the second row, three are in the third row, etc. How many rows of pictures will there be?

A 8 rows
 B 9 rows
 C 10 rows
 D 11 rows

5. The librarian is setting up tables in the media center. He can place 4 chairs around one small table. He will push tables together in a single row to make a bigger table. If he pushes 2 small tables together, he can place 6 chairs around the bigger table.



If 10 people need to sit around the table, what is the least number of small tables the librarian should push together?

A 3
 B 4
 C 5
 D 6


6. Josh wants to save \$165.00 to buy a pair of in-line skates. He plans to save \$1 the first month, \$3 the second month, \$6 the third month, and \$10 the fourth month.

Josh's Savings

Month	Amount saved during month	Total savings
1	\$1	\$1
2	\$3	\$4
3	\$6	\$10
4	\$10	\$20
5	\$15	\$35
6	\$21	\$56
7	\$28	\$84

If Josh continues this savings pattern, how many months will it take Josh to save a total of \$165.00?

- A 5 months
- B 7 months
- C 9 months
- D 13 months

7. Patrick and Susan both collect stamps. Susan has 5 times as many stamps as Patrick. If  is used to represent the number of stamps that Patrick has, which expression describes the total number of stamps that Patrick and Susan have together?

- A $(5 + \text{stamp}) \times \text{stamp}$
- B $(5 - \text{stamp}) + \text{stamp}$
- C $(5 + \text{stamp}) + \text{stamp}$
- D $(5 \times \text{stamp}) + \text{stamp}$

8. Shannon kept a chart to show how many pages she read each day.

Day	Pages Read
1	5
2	8
3	11
4	14

How many pages will she read on the twelfth day if she continues this pattern?

- A 35 pages
- B 38 pages
- C 41 pages
- D 44 pages

9. Mr. Thompson started a math club at school. In its first year, the club had 12 members. The table below shows the increase in club membership.

Second Year	Increase of 3
Third Year	Increase of 6
Fourth Year	Increase of 9

If this growth pattern continues, how many members will the math club have at the end of the eighth year?

- A 21
- B 66
- C 75
- D 96
10. Maria's family drives 328 miles from Asheville to Wilmington every summer. Maria's father drives at a constant speed of 50 miles per hour. **About** how much driving time does it take Maria's family to get to Wilmington?
- A 6 hours
- B $6\frac{1}{2}$ hours
- C 7 hours
- D $7\frac{1}{2}$ hours

11. Angela charges \$3.75 an hour to babysit 1 child. She charges \$1.50 an hour to babysit each extra child. How much will Angela charge if she babysits 3 children for 4 hours?
- A \$27.00
- B \$21.00
- C \$19.50
- D \$18.00
12. Callie mowed 2 lawns in 3 hours. At this rate, how long will it take to mow 6 lawns?
- A 6 hours
- B 8 hours
- C 9 hours
- D 18 hours

13. Franklin drops a ball from different heights and measures how high it bounces.

Drop Height	Bounce Height
1 ft	0.5 ft
2 ft	1 ft
4 ft	2 ft
7 ft	3.5 ft
12 ft	

If the pattern continues, what Bounce Height should Franklin expect if he drops the ball from a height of 12 feet?

- A 6 ft
- B 5.5 ft
- C 5 ft
- D 4.5 ft

End of Goal 5 Sample Items

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Math Goal 5
Sample Items Key Report

- 1** **Objective:** **5.01**
Describe, extend, and generalize numeric and geometric patterns using tables, graphs, words, and symbols.
Thinking Skill: Analyzing **Correct Answer:** C
- 2** **Objective:** **5.01**
Describe, extend, and generalize numeric and geometric patterns using tables, graphs, words, and symbols.
Thinking Skill: Applying **Correct Answer:** C
- 3** **Objective:** **5.01**
Describe, extend, and generalize numeric and geometric patterns using tables, graphs, words, and symbols.
Thinking Skill: Applying **Correct Answer:** D
- 4** **Objective:** **5.01**
Describe, extend, and generalize numeric and geometric patterns using tables, graphs, words, and symbols.
Thinking Skill: Analyzing **Correct Answer:** A
- 5** **Objective:** **5.02**
Use algebraic expressions, patterns, and one-step equations and inequalities to solve problems.
Thinking Skill: Analyzing **Correct Answer:** B
- 6** **Objective:** **5.02**
Use algebraic expressions, patterns, and one-step equations and inequalities to solve problems.
Thinking Skill: Applying **Correct Answer:** C
- 7** **Objective:** **5.02**
Use algebraic expressions, patterns, and one-step equations and inequalities to solve problems.
Thinking Skill: Analyzing **Correct Answer:** D
- 8** **Objective:** **5.02**
Use algebraic expressions, patterns, and one-step equations and inequalities to solve problems.
Thinking Skill: Applying **Correct Answer:** B
- 9** **Objective:** **5.03**
Identify, describe, and analyze situations with constant or varying rates of change.
Thinking Skill: Analyzing **Correct Answer:** D

