

**Arizona's Instrument to
Measure Standards
(AIMS)**

Grade 7

Writing, Reading, and Mathematics

Released Items

January 7, 2008

Mathematics**DIRECTIONS:** Read each question and choose the best answer.

1. The table below shows the average daily temperature by month and the average monthly temperature increase for several cities in Arizona.

Average Daily Temperatures by Month (in degrees Fahrenheit)

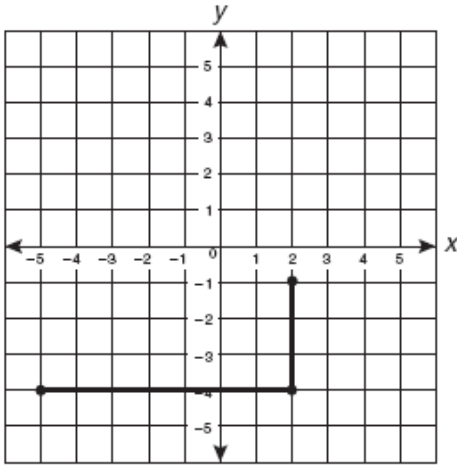
	Feb	Mar	Apr	May	Avg. Mo. Increase
Benson	64°	70°	80°	82°	+6°
Flagstaff	49°	52°	69°	76°	+9°
Phoenix	75°	81°	89°	96°	+7°
Tucson	68°	74°	83°	86°	+6°

Using the table, predict the average daily temperature in June for Phoenix if it increases exactly by the average shown.

- A** 98°F
- B** 103°F
- C** 110°F
- D** 113°F
2. Juan is 5 years older than Kathy. If Juan is 17 years old, which equation could be used to find k , Kathy's age?
- A** $k + 5 = 17$
- B** $k \cdot 5 = 17$
- C** $k - 5 = 17$
- D** $k \div 5 = 17$

Go On 

3. Which ordered pair represents the missing vertex of the rectangle in the grid shown below?



- A (-5, -1)
 B (-5, 0)
 C (-1, -5)
 D (0, -5)
4. The first two terms of this pattern are 4 and 7. Each term after the second is found by adding the two immediately preceding terms.

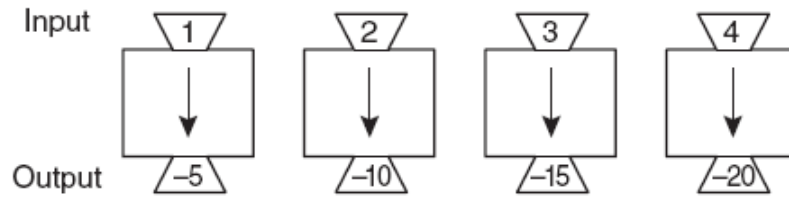
$$4, 7, 11, 18, \underline{\quad}, \underline{\quad}, \underline{\quad}$$

What are the three missing terms in the pattern above?

- A 21, 25, 32
 B 21, 28, 35
 C 29, 40, 51
 D 29, 47, 76

Go On 

5. Which of these could be the rule for the input/output machines shown below?



- A Input times -5 equals output.
 - B Input minus 20 equals output.
 - C Input plus -5 equals output.
 - D Input divided by -5 equals output.
6. The first term in the pattern below is 7. To find each term after the first, Luisa multiplied the previous term by 4 and added 3.

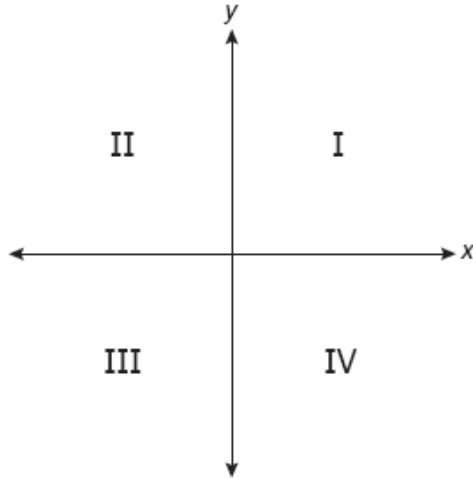
7, 31, 127, . . .

If the pattern continues, what are the next three terms?

- A 130, 133, 136
- B 385, 1,159, 3,481
- C 508, 2,032, 8,128
- D 511, 2,047, 8,191

Go On

7. In which quadrant on the coordinate plane would an ordered pair be graphed when the first coordinate is positive and the second coordinate is negative (+, -)?



- A I
- B II
- C III
- D IV

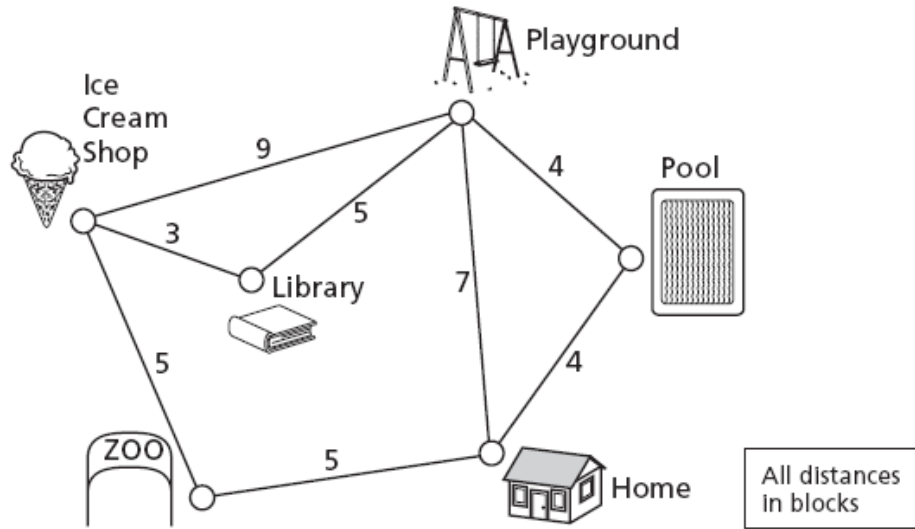
8. What is the value of this expression when $y = 3$ and $z = 4$?

$$(yz)^2$$

- A 14
- B 24
- C 48
- D 144

Go On 

9. Marshall wants to visit all the points of interest near his home. Leaving from his home, he will visit the zoo, ice cream shop, playground, library, and pool.



What is the shortest distance he can travel to visit all the sites and return home?

- A 21 blocks
- B 25 blocks
- C 26 blocks
- D 27 blocks

- 10.** Max, Owen, Elise, and Cara went to a school carnival. They each played the ring toss, dart throw, basketball throw, and water shoot. Each student won a different game.

Clues

- Max didn't score any points at the dart throw.
- Elise correctly tossed 2 rings but lost the ring toss.
- Cara won a bear for outscoring everyone at the water shoot.
- Owen scored more points than anyone at the basketball throw.

Clue Sheet

	Dart Throw	Ring Toss	Water Shoot	Basketball Throw
Max				
Owen				
Elise				
Cara				

Based on the clues above and the clue sheet, which game did Max win?

- A** dart throw
- B** ring toss
- C** water shoot
- D** basketball throw

