

Penny Sikes 5th and 6th Grade Mathematics Tournament

Sponsored by Morris Bank

2025 6th Grade Individual Test

- 1) Make sure your name and your grade are correct on the answer sheet.
- 2) NO CALCULATORS!
- 3) DO NOT OPEN THIS TEST BOOKLET UNTIL INSTRUCTED TO DO SO BY THE TEST MONITOR.
- 4) If you must leave to go to the restroom, raise your hand and a monitor will escort you to the nearest restroom. Remember you have a time limit.
- 5) Read each problem carefully and mark each answer on your answer sheet.
- 6) Each correct answer on the test will be counted as one point on your individual score.
- 7) If individuals have the same written test score, ties will be broken by determining which student gave correct answers to the most difficult item(s) on the test.
- 8) When the individual testing is over, please make sure you turn in your pencil and scantron. You may take your test and scratch work with you.

1. Using the proportion given, what is the value of x ?

$$\frac{20}{4} = \frac{x}{3}$$

- (a) $x = 6$ (b) $x = 10$ (c) $x = 12$ (d) $x = 15$

2. An inequality is shown below.

$$2p < 23$$

Which value for p makes the inequality true?

- (a) 11 (c) 12
(b) 11.5 (d) 12.5

3. The expression $4n + 6$ represents the number of baseball cards Sam has in his collection after n months.

How many baseball cards does Sam have when $n = 8$?



- (a) 14 (b) 32 (c) 38 (d) 42

4. Fred is three times as old as Bonnie. The sum of their ages in years is 36. How old is Bonnie?

- (a) 9 (b) 18 (c) 27 (d) 30

8. Which of the following accurately places the values in ascending order?

(a) $|-4.75|$, -4.5 , 4.25 , $|4.5|$

(b) -4.5 , -4.25 , $|-4.5|$, $|-4.25|$

(c) -4.5 , $|-4.75|$, 4.25 , $|4.5|$

(d) -4.75 , $|-4.25|$, 4.5 , $|4.75|$

9. A green rectangle has a width of three inches. An orange rectangle has twice the length of the green rectangle and six times the area of the green rectangle. What is the width of the orange rectangle?

(a) 5 in

(c) 10 in

(b) 9 in

(d) 90 in

10. Three out of every five students are wearing jackets today. If 45 students are wearing jackets, how many students are not wearing jackets today?

(a) 30

(b) 45

(c) 90

(d) 135

11. What number would make the equation true?

$$3.2 + (8 \times 3) = \Delta - 6.7$$

(a) $\Delta = 14.1$

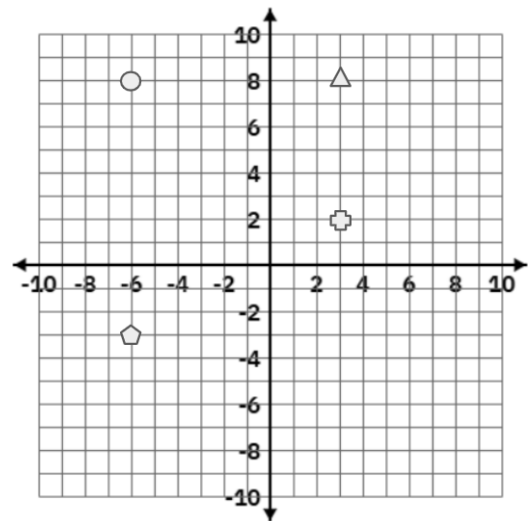
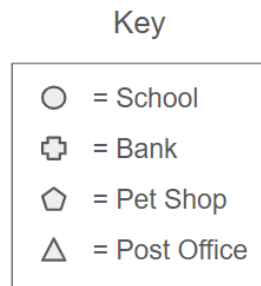
(b) $\Delta = 20.5$

(c) $\Delta = 26.9$

(d) $\Delta = 33.9$

12. Since last year, the value of a car diminished by \$2700, corresponding to a 15% drop in the value of the car. What is the value of the car now?
- (a) \$405
 (b) \$2,295
 (c) \$15,300
 (d) \$18,000

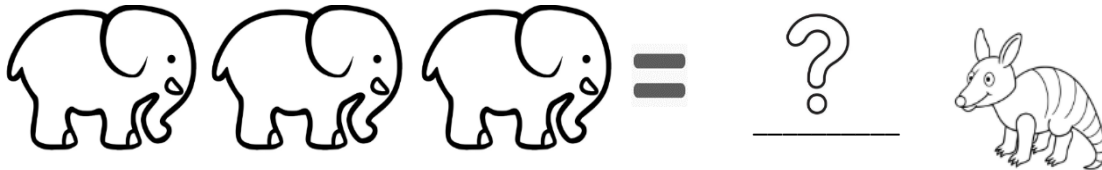
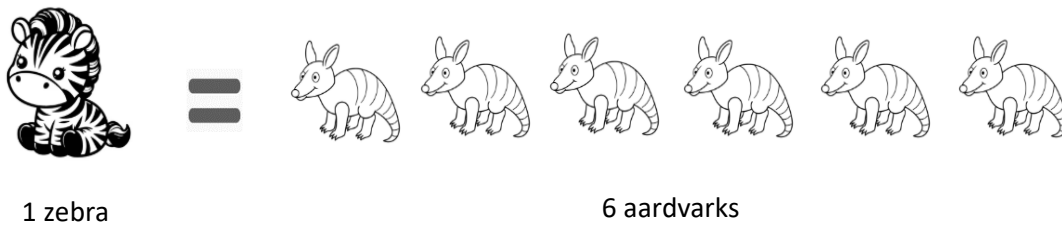
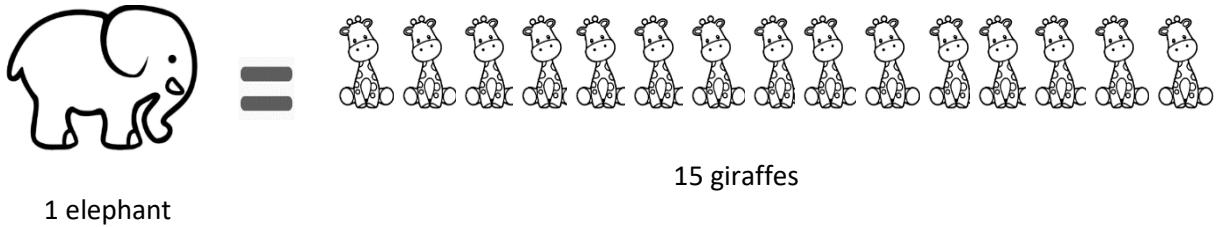
13. The coordinate grid shows the location of several buildings in a small town. Each unit on the grid represents 2 miles.



What is the distance from the school to the post office?

- (a) 9 miles (b) 12 miles (c) 18 miles (d) 22 miles
14. Multiplying a negative number by negative three gives the same answer as subtracting the negative number from twenty-two. What is the number?
- (a) -11 (b) -3 (c) -13 (d) -1

15. Using the image below, how many aardvarks are 3 elephants worth?



(a) 18

(c) 720

(b) 90

(d) 2160

16. Eight people attend a meeting. When the meeting ends, every person shakes hands once with every other person. What is the total number of handshakes?

(a) 28

(b) 48

(c) 56

(d) 64

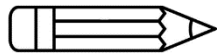
17. 5 students are racing to see who can finish their multiplication tables the fastest.

- April finished before Bryce, but behind Cara
- Daniel finished before Emma, but behind Bryce

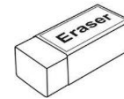
What was the finishing order?

- (a) Daniel, Cara, April, Bryce, Emma
- (b) Cara, Bryce, April, Daniel, Emma
- (c) Cara, April, Bryce, Daniel, Emma
- (d) Cara, Daniel, Emma, April, Bryce

18. Theresa has \$10. Pencils cost 72 cents each. Erasers cost 14 cents each. There is no sales tax. Theresa buys as many pencils as she can afford. With the money that is left over, Theresa buys as many erasers as she can. How much money will Theresa have left?



\$0.72



\$0.14

- (a) \$0.08
- (b) \$0.10
- (c) \$0.56
- (d) \$0.64

19. What is 15% of 30% of 60?

- (a) 0.27
- (b) 2.7
- (c) 27
- (d) 270

20. A soccer ball is made of 12 pentagons and 20 hexagons. The ball is a bit deflated so each shape is flat. Each pentagon has an area of 2 square inches, and each hexagon has an area that is $\frac{6}{5}$ the area of each pentagon. What is the total surface area of the soccer ball?

- (a) 48 in^2 (b) 72 in^2 (c) 96 in^2 (d) 120 in^2

21. A wooden math puzzle costs \$16 before sales tax and \$16.64 after sales tax. What is the percent tax rate?

- (a) 2% (c) 4%
(b) 3% (d) 5%

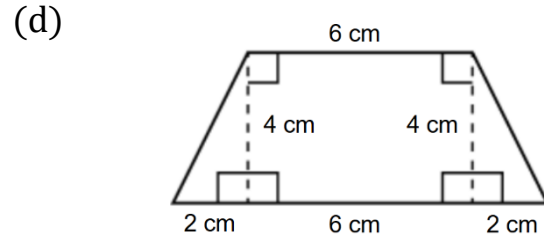
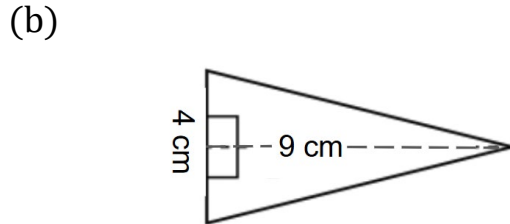
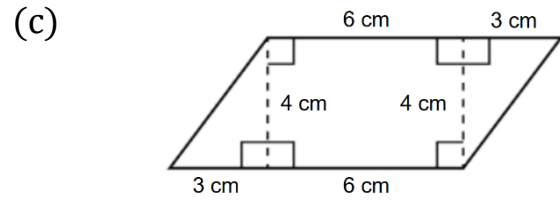
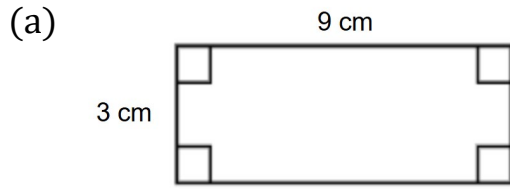
22. I have 22 cents. If I doubled the number of nickels I have, I would then have 37 cents. Exactly how many nickels do I have?

- (a) 2 (b) 3 (c) 4 (d) 5

23. Which of the following cannot be rewritten as $1 \times 2 \times 3 \times 4 \times 5$?

- (a) 12×15 (b) 6×20 (c) 24×5 (d) 30×4

27. Which polygon has an area of 36 cm^2 ?



28. The following pattern shows a sequence of numbers, where the first term is 2 and the 5th term is 17.

If this pattern is continued, what could be the value of the 8th term.

2	3	5	9	17	
1st	2nd	3rd	4th	5th	

(a) 129

(b) 108

(c) 91

(d) 65

29. What is the greatest common factor of 6^3 and 4^5 ?

(a) 8

(b) 12

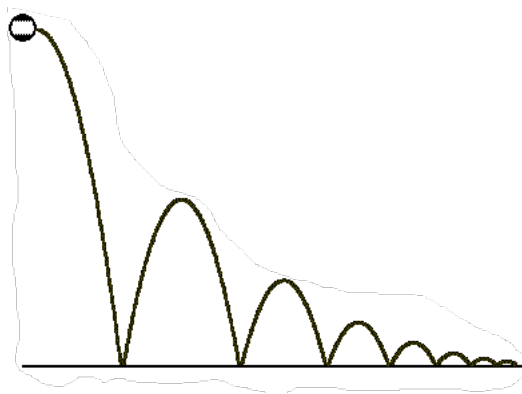
(c) 16

(d) 24

30. An order was placed for a product on October 29. The receipt states that the product will arrive in 5 to 10 weeks. What is the latest date for the expected delivery of the product?

- (a) December 3
- (b) December 28
- (c) January 7
- (d) January 11

31. A ball is released from a height of sixteen feet. After each bounce, the ball rises to a height that is one quarter of its previous height. What is the total vertical distance the ball travels by the time it strikes the ground for the fourth time? (in this problem, height is measured from the bottom of the ball to the ground)



- (a) 21 feet
- (b) 21.25 feet
- (c) 26 feet
- (d) 26.5 feet

32. Finding 80% of 6 is equivalent to finding 64% of which number?

- (a) 3.84
- (b) 4.8
- (c) 7.5
- (d) 7.82

33. Ten raised to what power equals a billion?

(a) 8

(b) 9

(c) 10

(d) 11

34. A customer purchases three-fourths of a pound of rice and two-thirds of a pound of beans. There is no sales tax. The total for both purchases is \$1.70. The rice costs \$1.60 per pound. What is the price per pound of the beans?



(a) \$0.33

(c) \$0.75

(b) \$0.50

(d) \$1.20

35. A puppy is 13 weeks and 4 days old. A kitten is one-fifth as old as the puppy. How old is the kitten?



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday



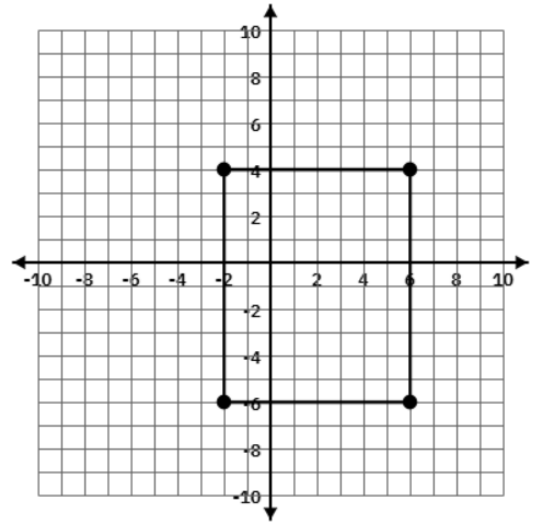
(a) 2 weeks and 5 days old

(b) 2 weeks and 6 days old

(c) 3 weeks and 1 day old

(d) 4 weeks and 1 day old

36. The image to the right shows a diagram of the location of a rectangular swimming pool that will be installed in a new subdivision.



The contractor plans to plant 3 palm trees close to the swimming pool.

Which group of ordered pairs could represent the location of the trees?
(he does not want to plant the trees inside the swimming pool)

- (a) $(2, -4)$, $(0, 7)$, $(0, -4)$ (c) $(-4, 2)$, $(2, 1)$, $(-1, -3)$
- (b) $(0, 5)$, $(7, -1)$, $(-4, 0)$ (d) $(3, -7)$, $(0, 5)$, $(0, 0)$
37. What is the ratio of prime numbers to even numbers for the first 50 counting numbers?
- (a) 15:24 (c) 16:24
- (b) 15:25 (d) 16:25
38. Nishi can type 75 words per minute. Lee can type 50 words per minute. If Nishi and Lee both type on separate computers, about how much time would it take for them to type a total of one thousand words?

- (a) 8 minutes (c) 12 minutes
- (b) 11 minutes (d) 14.5 minutes

39. The area of a circle divided by its circumference is equal to 5.4 feet. What is the diameter of the circle?

(a) 2.3 feet

(c) 10.8 feet

(b) 2.7 feet

(d) 21.6 feet

40. Which statement compares the products of 32.6×0.1 and 32.6×0.01 correctly?

(a) The product of 32.6×0.1 is 100 times less than the product of 32.6×0.01 .

(b) The product of 32.6×0.1 is 10 times less than the product of 32.6×0.01 .

(c) The product of 32.6×0.1 is 100 times more than the product of 32.6×0.01 .

(d) The product of 32.6×0.1 is 10 times more than the product of 32.6×0.01 .

41. James painted some walls in his office. He painted 5 walls using a total of $6\frac{1}{4}$ gallons of paint. If all 5 walls were of equal area, how many gallons of paint did he use on one wall?



(a) $\frac{4}{5}$

(b) $\frac{5}{4}$

(c) $1\frac{1}{2}$

(d) $31\frac{1}{4}$

49. Hayden's suitcase has the following dimensions:

Length: 18 inches

Width: 8 inches

Height: 24 inches

When traveling, space is very limited and he must pay the following amounts to store his suitcase. The unit rates vary based on the volume of the suitcase.

Size	Volume	Price per cubic inch
Small	$100 \text{ in}^3 - 1000 \text{ in}^3$	\$0.02 per in^3
Medium	$1001 \text{ in}^3 - 2000 \text{ in}^3$	\$0.025 per in^3
Large	$2001 \text{ in}^3 - 3000 \text{ in}^3$	\$0.03 per in^3
Extra Large	Greater than 3000 in^3	\$0.035 per in^3

Based on this table, how much will Hayden have to pay to store his suitcase?

(a) \$69.12

(c) \$103.68

(b) \$86.40

(d) \$120.96

50. Of 60 kids, if 20 like math, 30 like art, and 10 like both, then how many like neither?

(a) 0

(b) 10

(c) 20

(d) 30

6th Grade - Answer Key - 2025

1. D	26. C
2. A	27. C
3. C	28. A
4. A	29. A
5. D	30. C
6. C	31. D
7. D	32. C
8. D	33. B
9. B	34. C
10. A	35. A
11. D	36. B
12. C	37. B
13. C	38. A
14. A	39. D
15. D	40. D
16. A	41. B
17. C	42. D
18. A	43. B
19. B	44. A
20. B	45. C
21. C	46. A
22. B	47. A
23. A	48. D
24. D	49. D
25. D	50. C