Practice Individual Test

1. Evaluate:
$$\begin{array}{r} 182 \\ +43 \\ \hline \end{array}$$

2. What value of b satisfies $9b - 8 = 64$?

3. What is the ratio, expressed as a fraction, of the volume of a cube with edges measuring 5 cm to that of a cube with edges measuring 15 cm?

4. Evaluate: $23^2 - 17^2$

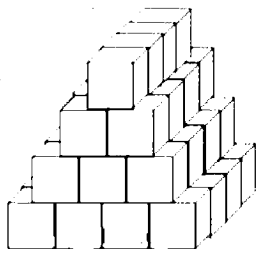
5. What is the median of the data set 4, 14, 25, 21, 5, 17, 32, 2, 6?

6. Evaluate: 3^5

7. What is the 19th term of an arithmetic sequence with first term 52 and common difference 7?

8. An 8-by-10 (inches) picture has a rectangular frame with a width of one inch all the way around the picture. What is the area of the frame, in square centimeters?

9. How many unit cubes are needed to build the stack shown?



10. If you write our alphabet alphabetically, how many letters do you write after the first vowel but before the last consonant?

11. Evaluate:
$$\begin{array}{r} 32 \\ \times 7 \\ \hline \end{array}$$

12. Of the 18 fish in my aquarium, twice as many have stripes as do not have stripes. How many fish have stripes?

13. What is the volume of a sphere with a radius of 7 cm?

14. What is the sum of the positive integer factors of 36?

15. A delivery truck carries 8 cases. Each case contains 7 cartons. In each carton are 6 boxes. If each box contains 1 pie, exactly how many pies are in the 8 cases?

16. Evaluate: $9\overline{)2025}$

17. What is the distance from the point $(1,1)$ to the point $(4,6)$?

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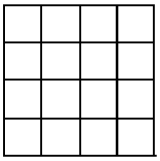
18. What is the surface area of a right circular cylinder with a base radius of 2 cm and a height of 5 cm?

19. How many squares of any size appear in the grid of unit squares to the right?



20. In a school with 77 eighth-graders, 26 are taking Geometry and 48 are taking Algebra. If 4 are taking both, how many are taking neither?

21. If Xu runs twelve miles in two hours, and then runs at 6 mph for an hour, what was his average speed over the three hours?

22. What is the next term of the sequence beginning 15, 20, 19, 22, 23, 24, 27, 26, 31?

23. Express the base ten number 41_{10} as a base four number.

24. How many minutes are in three weeks?

25. How many isosceles triangles are there with integer side lengths and perimeters of 24 when all dimensions are measured in centimeters?

26. Evaluate: $\log_4 512$

27. What is the digit in the hundredths place in the number 12345.678?

28. What are the coordinates, in the form (x, y), of the x-intercept of the line $5x - 3y = 30$?

29. How many positive two-digit integers are palindromes (numbers that read the same forward or backward)?

30. What is the sum of the interior angles in a pentagon?