

EM2 (Elementary Math)

Diagnostic Test

Rules

- This diagnostic test consists of questions from all chapters of the course. If the student scores at least 90% in this test, then the student can skip this course. Signup for the next course.
- If the student scored less than 90% of this test, then you should join this course.
- The student should try to answer all of the questions without a calculator and without any help. No time limit and no negative scoring.
- Each question carries 1 point. Total number of answers are 29. You should score at least 26 out of 29 to score 90% or above.
- Answers are provided at end of test. Print this test if possible but keep the answer sheet away until end of test.

- 1 A restaurant used 10 pounds of coffee last week and 40 pounds of coffee this week. How much coffee did the restaurant use during these two weeks?

_____ pounds

- 2 A restaurant bought 40 pounds of coffee, 10 pounds at a time. How many times did the restaurant buy coffee?

- 3 A restaurant uses 40 pounds of coffee a week. The restaurant used 10 pounds of coffee the first day it was open this week. At this rate, how many more days will it be until the usual amount of coffee is used?

- 4 Last week a restaurant used 10 pounds of coffee to make 40 urns of coffee. On the average, how much coffee was used for each urn of coffee?

_____ pounds

- 5 Giant Store sold 40 ounces of cleaner yesterday. Each can of cleaner weighed 10 ounces. How many cans of cleaner were sold?

Write the option showing the correct subtraction.

6 $\frac{5}{7} - \frac{1}{7} =$ (A) 4 (B) $\frac{4}{7}$ (C) $\frac{6}{7}$ (D) $\frac{5}{7}$

7 $\frac{3}{17} - \frac{2}{17} =$ (A) 1 (B) $\frac{2}{17}$ (C) $\frac{1}{17}$ (D) $\frac{5}{17}$

8 $\frac{12}{13} - \frac{11}{13} =$ (A) $\frac{1}{13}$ (B) $\frac{2}{13}$ (C) $\frac{23}{13}$ (D) 1

9 $\frac{5}{13} - \frac{2}{13} =$ (A) 3 (B) $\frac{4}{13}$ (C) $\frac{7}{13}$ (D) $\frac{3}{13}$

10 $\frac{8}{13} - \frac{7}{13} =$ (A) $\frac{2}{13}$ (B) $\frac{15}{13}$ (C) $\frac{1}{13}$ (D) 1

11 $\frac{6}{11} - \frac{1}{11} =$ (A) $\frac{7}{11}$ (B) 5 (C) $\frac{6}{11}$ (D) $\frac{5}{11}$

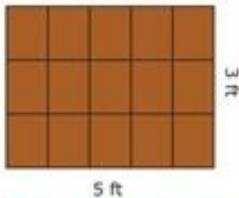
12 At lunch, Harriet had $\frac{5}{8}$ cup of popcorn. She then gave $\frac{1}{8}$ cup of popcorn to her friend.
How many cups of popcorn does she have left?

- (A) $\frac{4}{8}$ cup (B) $\frac{5}{8}$ cup (C) $\frac{16}{6}$ cups (D) $\frac{4}{16}$ cup
-

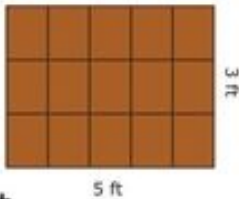
13 Juanita has $\frac{3}{8}$ cup of raisins. She needs $\frac{1}{8}$ cup of raisins for her cookie recipe. How many cups of raisins will be left after she makes her cookies?

- (A) $\frac{2}{16}$ cup (B) $\frac{3}{8}$ cup (C) $\frac{2}{8}$ cup (D) $\frac{16}{4}$ cups

The **area** of a rectangle is the number of square units in the shape.



The **perimeter** is the distance around the shape.



Michael built 2 picnic tables. Each table top had a length of 5 feet and a width of 3 feet.

area = 15 square feet

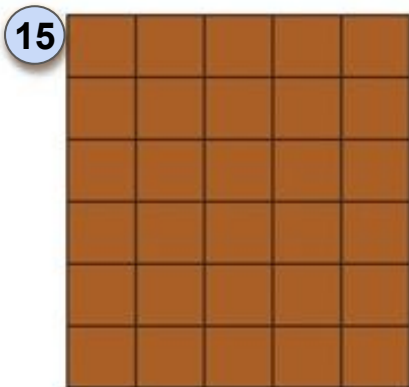
perimeter = 16 feet

Find the area and perimeter for each table top.



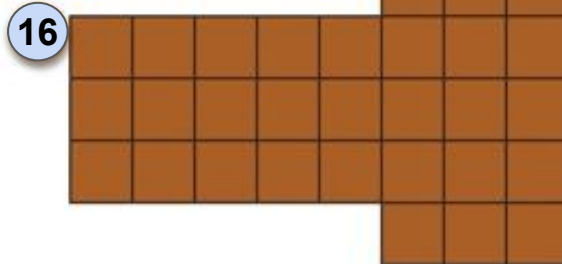
area = sq ft

perimeter = ft



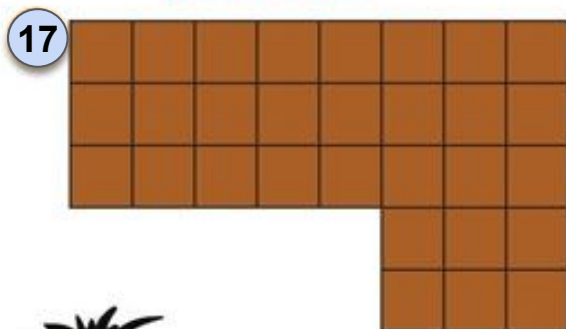
area = sq ft

perimeter = ft



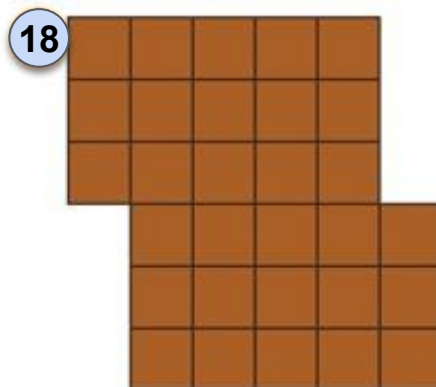
area = sq ft

perimeter = ft



area = sq ft

perimeter = ft

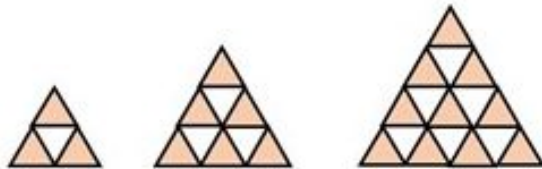


area = sq ft

perimeter = ft



19 How many triangles (Brown) does the next pattern have? _____



20 Daniel planted 2 plants in her backyard on day one, 6 plants on second day and 18 plants on third day. If the same pattern continues how many plants did she plant on the fourth day? _____

21 A square whose side length is 24 cm long can be cut up into at most _____ squares whose sides are each 4 cm long?

- 22 The sum of all even numbers bigger than 2 and smaller than 12 is _____
- 23 I started listing the odd whole numbers in order. My list began 1,3, 5.... If the last number I listed was 1995 and I did not skip any number, how many numbers were on my list? _____
- 24 A month is called a prime month if the total number of days in the month is a prime number. How many prime months are there in 1995? _____
- 25 The difference between two whole numbers is 2. The sum of the two integers may be _____
A) 1995 B) 1997 C) 1999 D) 2000
- 26 Captain Quark can run the Intergalactic Marathon twice as fast as Mr. Spoke. If Mr. Spoke can run it in 7 hours and 10 minutes, then Captain Quark can run it in _____ hour and _____ minutes

27 Find the dividend and remainder below so that the remainder is greatest?

$$\square \div 11 = 7 R \square$$

28 Find the Dividend and the Divisor for the problem below when the divisor is the smallest.

$$\square \div \square = 6 R 7$$

29 Starting March 1st, John put \$3 into a jar on every day with an odd-numbered date and he puts \$4 into the jar on every day with an even-numbered date. How much will be in the jar at the end of March 25th?

\$ _____

Answer Keys

1. 50
2. 4
3. 3
4. $\frac{1}{4}$
5. 4
6. B
7. C
8. A
9. D
10. C
11. D
12. A
13. C
14. Area = 30 sqft, perimeter = 26 ft
15. Area = 30 sqft, perimeter = 22 ft
16. Area = 30 sqft, perimeter = 26 ft
17. Area = 30 sqft, perimeter = 26 ft
18. Area = 30 sqft, perimeter = 24 ft
19. 15
20. 54
21. 36
22. 28
23. 998
24. 7
25. D
26. 3 hour and 35 minutes
27. 87,10
28. 55,8
29. 87