

# EM1 (Elementary Math)

## Diagnostic Test

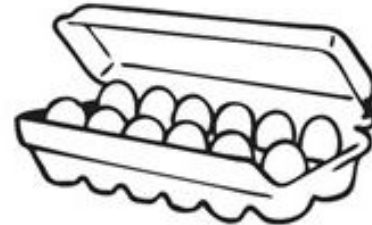
### Rules

- 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 30. You should score at least 27 out of 30 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.

Answer the word problems. Write an equation using the “greater than” sign ( $>$ ) or the “less than” sign ( $<$ ) to compare each set of numbers.

1 Jane has one dozen eggs and Eric has 10 eggs.

Who has more eggs? \_\_\_\_\_



2 Tai has two bags of marbles and each bag has five marbles in it. How many marbles does Tai have? \_\_\_\_\_

Jacob has nine marbles in his bag.

Who has more marbles? \_\_\_\_\_



3 Sara has fifty chickens in her backyard. Her uncle has fifteen chickens.

Who has more chickens? \_\_\_\_\_



4 There were twelve buses parked on the lot on Tuesday. There were twenty-two buses parked on the lot on Thursday.

Which day had more busses on the lot? \_\_\_\_\_



5



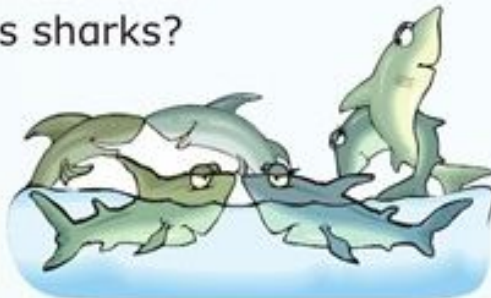
Mrs. Gray feeds the park birds 2 bags of bird seed every day. How many bags of bird seed does she use in a week?



\_\_\_\_\_

6

The zoo has 6 sharks. Each shark eats 3 fish a day. How many fish does the zoo need each day to feed its sharks?



\_\_\_\_\_

7

There are 20 students in my class, counting me. There are 4 classes in our school. Each class has the same number of students. How many students are in my school?



\_\_\_\_\_

Answer the questions in each box. Draw clock hands to show the starting time and the ending time. Then write the answer on the line.

**8** It is 8:05 AM. School begins in 15 minutes.

Time now  School begins at  \_\_\_\_\_ : \_\_\_\_\_ AM.

**9** It is 7:10 PM. The movie begins in 10 minutes.

Time now  Movie begins at  \_\_\_\_\_ : \_\_\_\_\_ PM.

**10** It is 9:30 AM. The bus leaves in 45 minutes.

Time now  The bus leaves at  \_\_\_\_\_ : \_\_\_\_\_ AM.

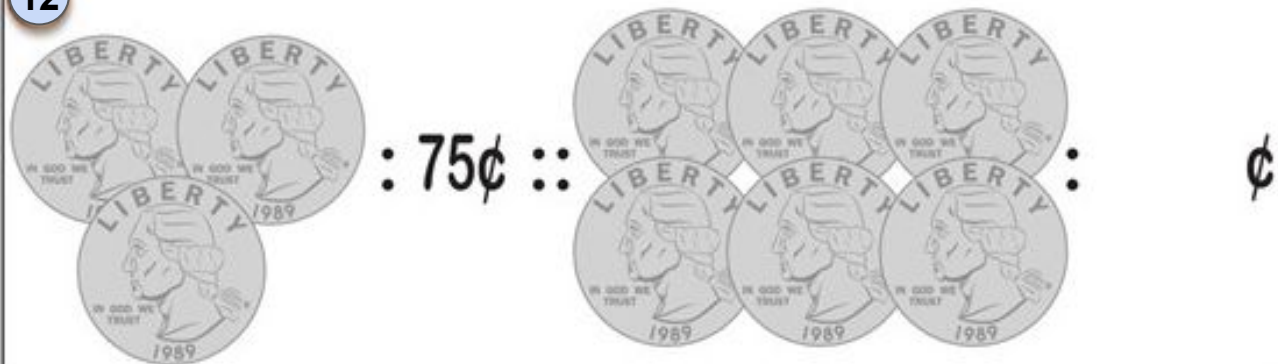
**11** It is 2:45 PM. School gets out in half an hour.

Time now  School gets out at  \_\_\_\_\_ : \_\_\_\_\_ PM.



# Complete Each Math Analogy

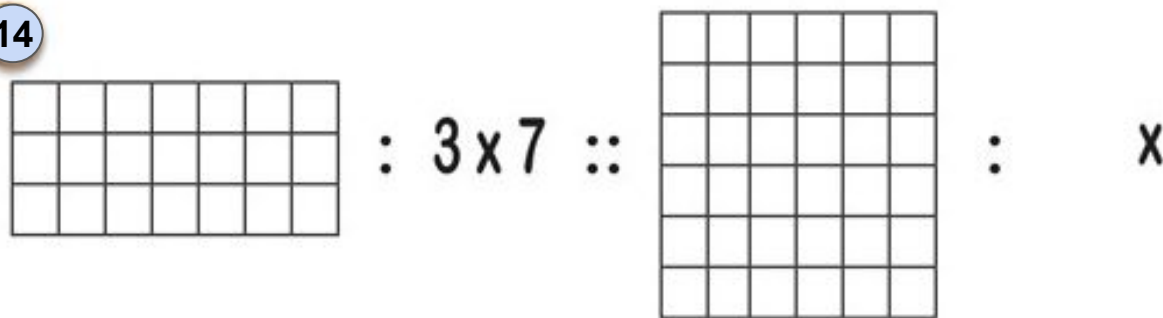
12



13

one half : 50 :: one quarter :  
of a of a  
hundred hundred

14

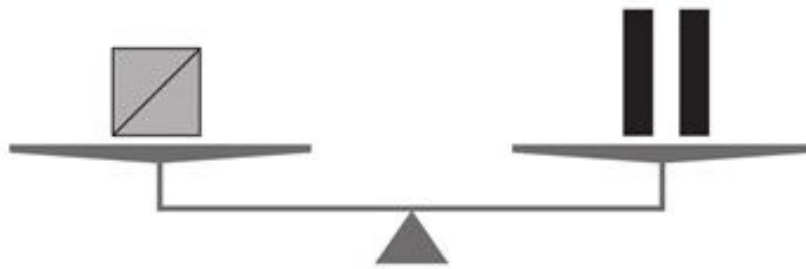
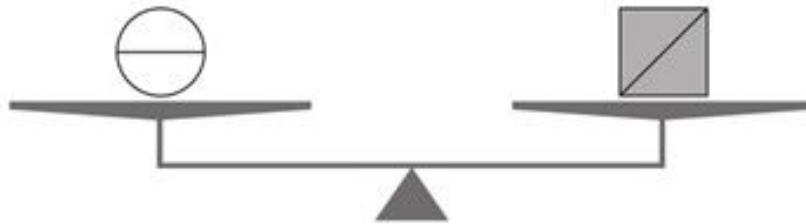


15

1 minute : 60 seconds :: 1 hour : minutes



# Balance Benders™



True or False

16  $|||| = \bigcirc\bigcirc$

19  $|| = \smile\smile\smile$

17  $||| = \triangle\blacksquare$

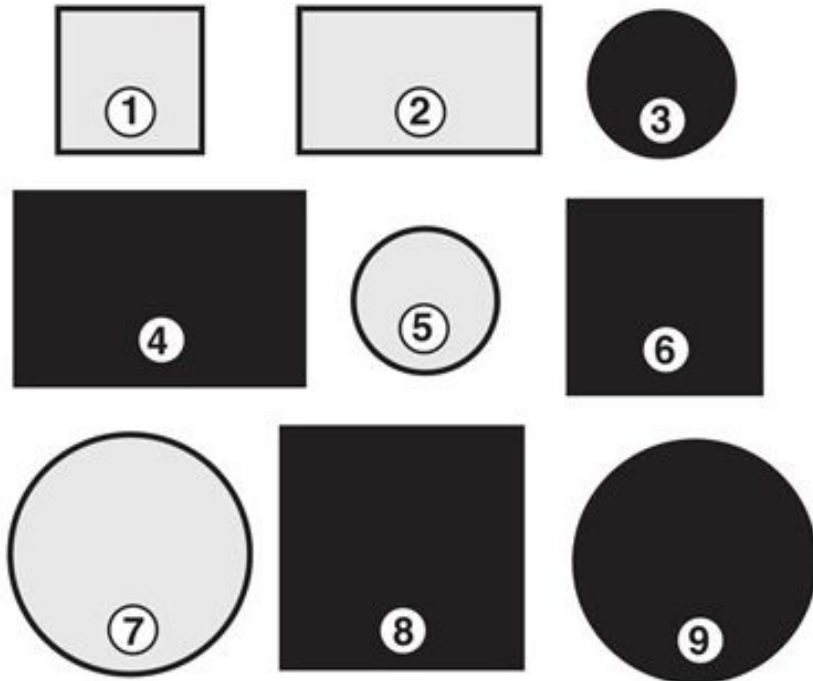
20  $\bigcirc\smile = \triangle\triangle\triangle\triangle$

18  $\blacksquare\blacksquare = | \bigcirc |$

21  $\blacksquare\blacksquare\triangle = \smile\blacksquare\blacksquare\smile$

**DIRECTIONS:** The figures at the left can be classified in many ways. Fill in each blank with the numbers of the figures that belong to the group described.

**FIGURES FOR 1 to 4**



**EXAMPLE** Squares

1, 6, 8

22

Rectangles that are not squares

\_\_\_\_\_

23

Gray shapes

\_\_\_\_\_

24

Circles

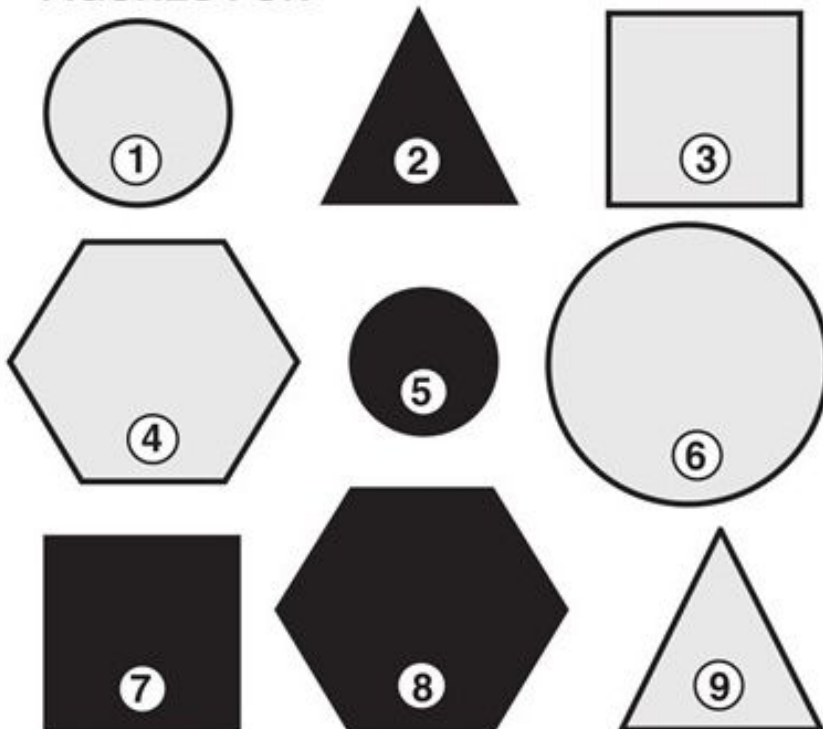
\_\_\_\_\_

25

Black shapes

\_\_\_\_\_

**FIGURES FOR 5 to 9**



26

Circles

\_\_\_\_\_

27

Squares

\_\_\_\_\_

28

Black shapes

\_\_\_\_\_

29

Triangles

\_\_\_\_\_

30

Hexagons

\_\_\_\_\_

## Answer Keys

1. Jane
2. 10, Tai
3. Sara
4. Thursday
5. 14
6. 18
7. 80
8. 8:20 am
9. 7:20 pm
10. 10:15 am
11. 3:15 pm
12. 150 cents
13. 25
14. 6x6
15. 60
16. True
17. True
18. True
19. False
20. False
21. False
22. 2, 4
23. 1, 2, 5, 7
24. 3, 5, 7, 9
25. 3, 4, 6, 8, 9
26. 1, 5, 6
27. 3, 7
28. 2, 5, 7, 8
29. 2, 9
30. 4, 8