

Placement Test D

C O M P U T A T I O N S

Developmental Mathematics

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PLACEMENT TEST D

How to Use the Placement Test

The Placement Test pamphlet is composed of three parts; the student's Placement Test, the educator's Placement Guidelines, and the Placement Key. The educator's Placement Guidelines and the Placement Key are contained on the inside of the front cover and the inside of the back cover of the pamphlet, respectively. The student's Placement Test is enclosed as the eight-page contents of the pamphlet. Please remove the cover of the Placement Test pamphlet for the educator, so the student does not have access to the Placement Key. Give the eight-page Placement Test to the student for completion, and use the following Placement Guidelines and Placement Key to check his or her work. It's as easy as 1, 2, 3!

Placement Guidelines

Placement Test D covers the theoretical concepts, basic facts, and practical skills in *Developmental Mathematics* Levels 11, 12, and 13. The specific Placement Test questions that address these levels are as follows:

- Level 11 Three-Unit Numbers:** Multiplication and Division Skills
Questions 1–25
- Level 12 Thousands and Large Numbers:** Concepts and Skills
Questions 26–48
- Level 13 Decimals, Fractions and The Metric System:** Concepts and Skills
Questions 49–66

The student should attempt to complete the entire Placement Test until he or she cannot proceed without aid. After the student completes the questions, the educator should analyze the responses that address a specific level, item by item, and evaluate the quality of the student's performance. Typical results show a decrease in the quality of the student's performance in the more complicated concepts tested toward the end of the Placement Test. If *most* of the answers given are correct, then the student has successfully passed the current level of the Placement Test. However, if *most* of the answers are incorrect or if the student is hesitant in giving his or her answers, then the student is in need of practice, and he or she should begin the *Developmental Mathematics* curriculum with the current level. Good luck!

Mathematics Placement and Scoring System (MPASS)

Mathematics Programs Associates (MPA) has developed an automated computerized version of the *Developmental Mathematics* placement and scoring framework, available on disk and on the World Wide Web. Visit our Internet distributor at www.greatpyramid.com and find the placement (MPASS) mechanism within the mathematics section of the product module. You can also learn more about MPA and *Developmental Mathematics*.

PLACEMENT TEST D

Computations: Large Numbers and Decimals

Name: _____ Date: _____

1. a. $4 \times 210 = \underline{\hspace{2cm}}$ b. $3 \times 40 = \underline{\hspace{2cm}}$ c. $5 \times 80 = \underline{\hspace{2cm}}$

2. a. $3 \times 21 = \underline{\hspace{2cm}}$ b. $5 \times 31 = \underline{\hspace{2cm}}$ c. $8 \times 35 = \underline{\hspace{2cm}}$

d. $2 \times 413 = \underline{\hspace{2cm}}$ e. $4 \times 175 = \underline{\hspace{2cm}}$ f. $9 \times 105 = \underline{\hspace{2cm}}$

3. a. $20 \times 4 = \underline{\hspace{2cm}}$ b. $30 \times 8 = \underline{\hspace{2cm}}$ c. $40 \times 5 = \underline{\hspace{2cm}}$

4. a.
$$\begin{array}{r} 58 \\ \times 6 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 270 \\ \times 3 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 104 \\ \times 5 \\ \hline \end{array}$$

5. a. $10 \times 30 = \underline{\hspace{2cm}}$ b. $70 \times 10 = \underline{\hspace{2cm}}$ c. $60 \times 10 = \underline{\hspace{2cm}}$

d. $10 \times 48 = \underline{\hspace{2cm}}$ e. $39 \times 10 = \underline{\hspace{2cm}}$ f. $14 \times 10 = \underline{\hspace{2cm}}$

6. a. $20 \times 40 = \underline{\hspace{2cm}}$ b. $90 \times 30 = \underline{\hspace{2cm}}$ c. $50 \times 60 = \underline{\hspace{2cm}}$

7. a. $30 \times 32 = \underline{\hspace{2cm}}$ b. $40 \times 21 = \underline{\hspace{2cm}}$ c. $37 \times 20 = \underline{\hspace{2cm}}$

8. a.
$$\begin{array}{r} 39 \\ \times 12 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 23 \\ \times 35 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 53 \\ \times 16 \\ \hline \end{array}$$

9. a.
$$\begin{array}{r} 25 \\ \times 28 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 36 \\ \times 5 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 24 \\ \times 25 \\ \hline \end{array}$$

10. a. $24 \div 2 = \underline{\quad}$

b. $96 \div 3 = \underline{\quad}$

c. $80 \div 4 = \underline{\quad}$

11. a. $60 \div 20 = \underline{\quad}$

b. $270 \div 90 = \underline{\quad}$

c. $400 \div 50 = \underline{\quad}$

12. a. $3 \overline{)963}$

b. $4 \overline{)804}$

c. $2 \overline{)600}$

13. a. $6 \overline{)528}$

b. $7 \overline{)504}$

c. $4 \overline{)800}$

14. a. $5 \overline{)792}$

b. $8 \overline{)703}$

c. $7 \overline{)850}$

15. a. $38 \overline{)190}$

b. $76 \overline{)532}$

c. $59 \overline{)531}$

16. a. $60 \overline{)258}$

b. $28 \overline{)210}$

c. $63 \overline{)508}$

17. a. $35 \overline{)498}$

b. $24 \overline{)890}$

c. $42 \overline{)900}$

18. a. $39 \overline{)800}$

b. $27 \overline{)834}$

c. $17 \overline{)693}$

19. You have 35 twenty dollar bills.

You want to exchange them for fifty dollar bills.

How many fifty-dollar bills do you get? _____

20. In your piggy bank, you have 39 dimes and 97 nickels.

You want to exchange them for quarters.

How many quarters do you get? _____

21. You had 25 sets of marbles with 36 marbles in each set.

You put the marbles together, and then made as many sets as you could with 27 marbles in each set.

What was the result? _____

22. You started with a number, added 236, and then divided by 28.

The result was 29.

What number did you start with? _____

23. $A = 800 - (32 \times 24)$

What number is A? _____

24. $X + (25 \times 30) = 965$

What number is X? _____

25. You divide a number by 28.

The answer is 25 and a remainder.

a. What is the smallest number you divide? _____

b. What is the largest number you divide? _____

- 26.a. $6,000 + 2,000 = \underline{\hspace{2cm}}$ b. $5,000 + 5,000 = \underline{\hspace{2cm}}$ c. $9,000 + 6,000 = \underline{\hspace{2cm}}$
- 27.a. $9,000 - 4,000 = \underline{\hspace{2cm}}$ b. $10,000 + 2,000 = \underline{\hspace{2cm}}$ c. $11,000 + 6,000 = \underline{\hspace{2cm}}$
- 28.a. $4 \times 2,000 = \underline{\hspace{2cm}}$ b. $3 \times 6,000 = \underline{\hspace{2cm}}$ c. $8 \times 50 = \underline{\hspace{2cm}}$
- 29.a. $100 \times 100 = \underline{\hspace{2cm}}$ b. $400 \times 8,000 = \underline{\hspace{2cm}}$ c. $300 \times 7,000 = \underline{\hspace{2cm}}$
- 30.a. $8 \times 357 = \underline{\hspace{2cm}}$ b. $127 \times 500 = \underline{\hspace{2cm}}$ c. $4,000 \times 20 = \underline{\hspace{2cm}}$
- 31.a. $36,000 \div 4 = \underline{\hspace{2cm}}$ b. $24,000 \div 3 = \underline{\hspace{2cm}}$ c. $40,000 \div 8 = \underline{\hspace{2cm}}$
- 32.a. $8,048 \div 4 = \underline{\hspace{2cm}}$ b. $9,020 \div 5 = \underline{\hspace{2cm}}$ c. $9,000 \div 5 = \underline{\hspace{2cm}}$
- 33.a. $832,000$
 $9,000$
 $+ \underline{27,000}$
- b. $76,000$
 $243,000$
 $+ \underline{76,000}$
- c. $497,000$
 $213,000$
 $+ \underline{19,000}$
- 34.a. $3,254$
 $2,795$
 $+ \underline{1,206}$
- b. $3,804$
 $3,950$
 $+ \underline{2,146}$
- c. $4,807$
 $23,658$
 $+ \underline{1,095}$
- 35.a. $768,000$
 $- \underline{215,000}$
- b. $650,000$
 $- \underline{297,000}$
- c. $800,000$
 $- \underline{386,000}$
- 36.a. $9,457$
 $- \underline{2,428}$
- b. $6,025$
 $- \underline{1,278}$
- c. $6,000$
 $- \underline{3,463}$
- 37.a. $543,967$
 $- \underline{185,432}$
- b. $104,532$
 $- \underline{68,562}$
- c. $6,000,000$
 $- \underline{294,853}$

38. a. 3,145

$$\begin{array}{r} \text{x} \quad 5 \\ \hline \end{array}$$

b. 2,064

$$\begin{array}{r} \text{x} \quad 5 \\ \hline \end{array}$$

c. 1,205

$$\begin{array}{r} \text{x} \quad 8 \\ \hline \end{array}$$

39. a. 3,145

$$\begin{array}{r} \text{x} \quad 3 \\ \hline \end{array}$$

b. 2,064

$$\begin{array}{r} \text{x} \quad 4 \\ \hline \end{array}$$

c. 1,205

$$\begin{array}{r} \text{x} \quad 6 \\ \hline \end{array}$$

40. a. 368

$$\begin{array}{r} \text{x} \quad 45 \\ \hline \end{array}$$

b. 507

$$\begin{array}{r} \text{x} \quad 32 \\ \hline \end{array}$$

c. 780

$$\begin{array}{r} \text{x} \quad 89 \\ \hline \end{array}$$

41. a. $8 \overline{)9,848}$

b. $5 \overline{)9,020}$

c. $3 \overline{)1,820}$

42. a. $291 \overline{)1746}$

b. $542 \overline{)2168}$

c. $652 \overline{)3260}$

43. a. $34 \overline{)9758}$

b. $235 \overline{)6497}$

c. $45 \overline{)9045}$

44. a. How many nickels do you get for \$9? _____

b. How many quarters do you get for 420 dimes? _____

45. a. How many quarters do you get for \$39? _____

b. How many dimes do you get for 42 quarters? _____

46. You have 25 twenty-dollar bills and 60 ten-dollar bills. You exchange all your money for fifty-dollar bills.

How many fifty-dollar bills do you get? _____

47. You have 30 one-hundred dollar bills and 80 five-dollar bills. You exchange all your money for twenty-dollar bills.

How many twenty-dollar bills do you get? _____

48. You have \$80. You have 60 quarters and the rest in nickels.

How many nickels do you have? _____

49. a. $3.6 + 1.7 + 0.9 =$ _____

b. $7.3 + 2.7 + 9 =$ _____

50. a. $8.25 + 1.68 =$ _____

b. $3.6 + 2.65 + 2 =$ _____

51. a. $35.8 - 23.1 =$ _____

b. $91 - 48.7 =$ _____

52. a. $38.49 - 12.76 =$ _____

b. $51.8 - 26.84 =$ _____

53. a. $10 \times 4.6 =$ _____

b. $100 \times 2.5 =$ _____

54. a. $6 \times 3.8 =$ _____

b. $8 \times 12.5 =$ _____

55. a. $10 \times 2.67 =$ _____

b. $100 \times 2.95 =$ _____

56. a.
$$\begin{array}{r} 3.6 \\ 7 \\ 9.9 \\ + 46 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 0.9 \\ 0.8 \\ 0.6 \\ + 0.7 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 2.6 \\ 3 \\ 1.85 \\ + 2.7 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 54 \\ 27.07 \\ + 0.93 \\ \hline \end{array}$$

57. a.
$$\begin{array}{r} 23.9 \\ - 7.8 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 7.4 \\ - 0.6 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 67.4 \\ - 8.79 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 70 \\ - 4.89 \\ \hline \end{array}$$

58. a.
$$\begin{array}{r} 7.9 \\ \times 4 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 8.5 \\ \times 8 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 1.8 \\ \times 43 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 5.6 \\ \times 125 \\ \hline \end{array}$$

59. a.
$$\begin{array}{r} 2.08 \\ \times 5 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 3.92 \\ \times 8 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 2.08 \\ \times 25 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 13.58 \\ \times 38 \\ \hline \end{array}$$

60. a.
$$7 \overline{)99.4}$$

b.
$$3 \overline{)61.8}$$

c.
$$5 \overline{)28.0}$$

61. a.
$$25 \overline{)72.5}$$

b.
$$17 \overline{)581.4}$$

c.
$$24 \overline{)300.00}$$

62. Express in dollars.

a.



b.



c.



63. The sum of two numbers is 7.

One of the numbers is 2.009.

What is the other number?

64. You bought items for \$5.75.

How much change do you get from \$10?

65. You have \$3.26.

You want to buy a notebook for \$2.35

and candy for \$1.59.

How much more do you need?

66. The cost of 6 cans of fruit at \$1.25 per can is the same as the cost of 5 lbs. of grapes.

What is the price of one pound of grapes?

PLACEMENT KEY D

Although some of the answers may seem obvious, we have included the answers to all of the Placement Test questions within the following table.

Level 11		Level 12		Level 13	
Question	Answer	Question	Answer	Question	Answer
1a	840	26a	8,000	49a	6.2
1b	120	26b	10,000	49b	19.0
1c	400	26c	15,000	50a	9.93
2a	63	27a	5,000	50b	8.25
2b	155	27b	12,000	51a	12.7
2c	280	27c	17,000	51b	42.3
2d	826	28a	8,000	52a	25.73
2e	600	28b	18,000	52b	24.96
2f	945	28c	400	53a	46
3a	80	29a	10,000	53b	250
3b	240	29b	3,200,000	54a	22.8
3c	200	29c	2,100,000	54b	100
4a	348	30a	2,856	55a	26.7
4b	810	30b	63,500	55b	295
4c	520	30c	80,000	56a	66.5
5a	300	31a	9,000	56b	3.0
5b	700	31b	8,000	56c	10.15
5c	600	31c	5,000	56d	82.00
5d	480	32a	2,012	57a	16.1
5e	390	32b	1,804	57b	6.8
5f	140	32c	1,800	57c	58.61
6a	800	33a	868,000	57d	65.11
6b	270	33b	395,000	58a	31.6
6c	300	33c	729,000	58b	68.0
7a	960	34a	7,255	58c	77.4
7b	840	34b	9,900	58d	700
7c	740	34c	29,560	59a	10.40
8a	468	35a	553,000	59b	31.36
8b	805	35b	353,000	59c	52.00
8c	848	35c	414,000	59d	516.04
9a	700	36a	7,029	60a	14.2
9b	180	36b	4,747	60b	20.6
9c	600	36c	2,537	60c	5.6
10a	12	37a	358,535	61a	2.9
10b	32	37b	35,970	61b	34.2
10c	20	37c	5,705,147	61c	12.5
11a	3	38a	15,725	62a	\$0.26
11b	3	38b	10,320	62b	\$0.02
11c	8	38c	9,640	62c	\$0.20
12a	321	39a	9,435	63	4.991
12b	201	39b	8,256	64	\$4.25
12c	300	39c	7,230	65	\$0.68
13a	88	40a	16,560	66	\$1.50
13b	72	40b	16,224		
13c	200	40c	69,420		
14a	158 R2	41a	1,231		
14b	87 R7	41b	1,804		
14c	121 R3	41c	606 R2		
15a	5	42a	6		
15b	7	42b	4		
15c	9	42c	5		
16a	4 R18	43a	287		
16b	7 R14	43b	27 R152		
16c	8 R4	43c	201		
17a	14 R8	44a	180		
17b	37 R2	44b	168		
17c	21 R18	45a	156		
18a	20 R20	45b	105		
18b	30 R24	46a	22		
18c	40 R13	47	170		
19	14	48	1300		
20	35				
21	33 R9				
22	576				
23	32				
24	215				
25a	701				
25b	727				

Mathematics Programs Associates (MPA),

a Long Island-based family enterprise providing educational products and consulting services, exists today primarily due to the vision and determination of its founder, Dr. L. George Saad.

During the early 1950s, Dr. Saad taught mathematics education at the University of Ain-shams in Cairo, Egypt. In 1954, with an innovative idea for self-teaching, he enrolled as a doctoral candidate at the University of Birmingham in England. During the following three years, Dr. Saad devoted his research to the elementary and secondary students' understanding of basic mathematics, and he developed the methodology for a self-teaching mathematics program. In 1957, Dr. Saad received the Ph.D. in mathematics education. He then returned to Cairo and began the development of a government-sponsored mathematics curriculum for use throughout the country's elementary school system. In 1959, samples of Dr. Saad's materials were tested in the Cairo schools and, a few years later, his curriculum was being used throughout the country and in other Middle Eastern nations. Due to his popularity in the Middle East, in 1969, Dr. Saad was invited to the United States as a visiting professor at the State University of New York, and in the same year, accepted a professorship at Long Island University. In 1970, with an inspiration to repeat his success, Dr. Saad immigrated his family to the United States and began working on the rudiments of a self-teaching mathematics workbook series. In 1974, he incorporated MPA in New York to design, develop and distribute his work. Today, educators and students in the United States, and many other nations throughout the world, are benefiting from Dr.

Saad's lifelong achievement,

Developmental Mathematics

A Self-Teaching Program



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