

Math 2130/2150 Placement Test Practice Problems

The placement test will be completed without the use of a calculator. Therefore, it is suggested that you complete the practice problems using paper-and-pencil methods only. An answer key is included following the practice problems. Help is available in the Math & Stat Tutoring Center, 208 Moseley Hall.

I. Decimal Numbers

1. Give the place value of the 6 in 20,795.0167.
2. What digit is in the hundreds place in 1,243,508.976?
3. Round the number 19,735.6804 to the nearest tenth.
4. Round the number 19,735.6804 to the nearest thousand.
5. Add: a) $48,970 + 486$ b) $-19 + 4$ c) $142.538 + 59.08$
6. Subtract: a) $2301 - 1997$ b) $28 - (-12)$ c) $563.02 - 29.734$
7. Multiply: a) 208×47 b) -12×15 c) 5.16×2.3
8. Divide: a) $3588 \div 26$ b) $\frac{-96}{-12}$ c) $4.53 \div 1.5$
9. Simplify completely: a) $28 - 14 \div 2$ b) $6(8 + 19)$

II. Fractions

10. Which of the following numbers is closest to zero? $\frac{1}{100}$ $\frac{1}{10}$ $\frac{1}{99}$ $\frac{1}{101}$
11. Which of the following numbers is closest to one? $\frac{4}{5}$ $\frac{6}{7}$ $\frac{6}{5}$ $\frac{7}{6}$

III. Ratios, Proportions, and Percents

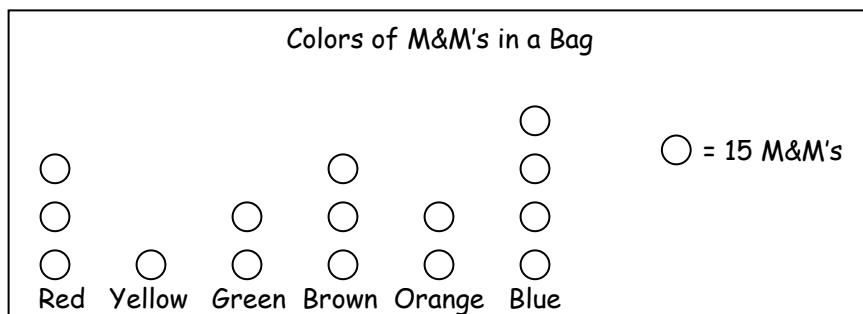
24. A large lecture class at the university has 65 freshmen, 45 sophomores, 30 juniors, and 10 seniors.
- In this large lecture class, what is the ratio of seniors to freshmen?
 - What percent of the students in this class are sophomores?
25. If it takes $3\frac{1}{4}$ yards of fabric to make two costumes, how much fabric will be required in order to make seven costumes?

IV. Problem Solving and Algebraic Reasoning

26. Give the next number in each sequence.
- 5, 14, 23, 32, ...
 - 64, 32, 16, 8, ...
27. To purchase a new refrigerator for \$994, Mr. Kline paid a deposit of \$250, and then paid the balance in six equal monthly payments. How much was each monthly payment?
28. Sara was walking from her home to school when she stopped to tie her shoe. The location where she stopped to tie her shoe was twice as far from her home as it was from the school. If Sara lives 18 km from the school, how far was she from the school when she stopped to tie her shoe?
29. Complete the following statement: If $4x - 10 = 22$, then $4x = \underline{\hspace{2cm}}$.

V. Data Analysis and Probability

30. Mark's quiz scores were 18, 16, and 11. Find the mean of his quiz scores.
31. Using the graph below, how many more blue M&M's than yellow M&M's are there in the bag?



32. A large lecture class at the university has 65 freshmen, 45 sophomores, 30 juniors, and 10 seniors. If you were to choose a student at random from this class, what is the probability that the student would be a junior?

VI. Geometry and Measurement

33. Name two lines in Figure 1 that appear to be parallel to each other.
34. Name two lines in Figure 1 that appear to be perpendicular to each other.
35. Find the angle measure of x in Figure 1.

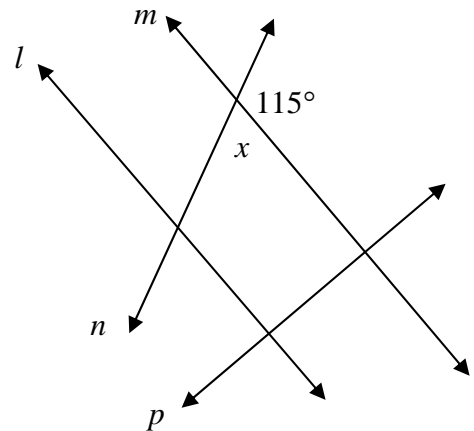


Figure 1

36. Name an angle in Figure 2 that appears to be an acute angle.
37. Name an angle in Figure 2 that appears to be an obtuse angle.
38. If $\angle ABC$ is a right angle, find the angle measure of $\angle DBC$ in Figure 2.

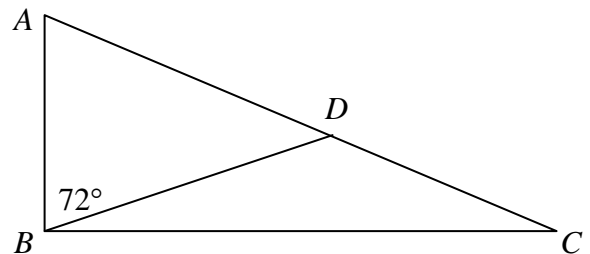
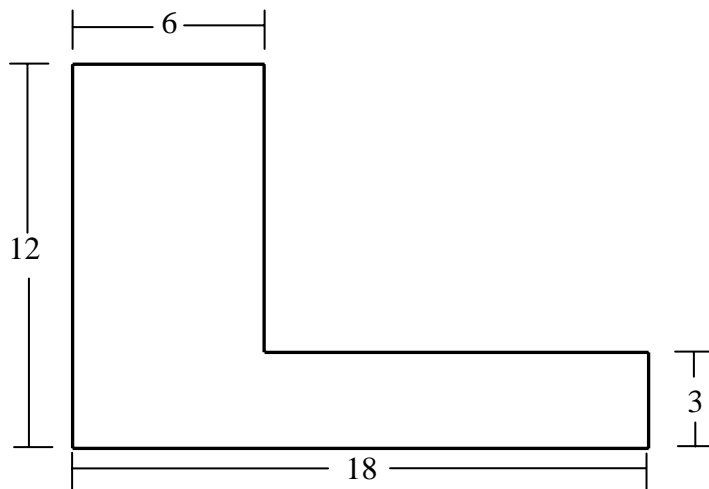


Figure 2

39. Give the length and width of a rectangle that has:
- a. a perimeter of 20 cm b. an area of 24 cm^2
40. Find the perimeter and the area of the given polygon.



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Where appropriate, alternate acceptable answers are given.

1. thousandths OR 10^{-3} OR $\frac{1}{1000}$
2. 5 OR five
3. 19,735.7
4. 20,000
5. a. 49,456
b. -15
c. 201.618
6. a. 304
b. 40
c. 533.286
7. a. 9776
b. -180
c. 11.868
8. a. 138
b. 8
c. 3.02 OR $3\frac{1}{50}$
9. a. 21
b. 162
10. $\frac{1}{101}$
11. $\frac{6}{7}$
12. $\frac{1}{10}$
13. $12\frac{3}{4}$
14. $\frac{77}{8}$
15. $\frac{3}{8}$
16. a. $\frac{19}{24}$
b. $22\frac{1}{2}$
17. a. $\frac{13}{36}$
b. $8\frac{7}{10}$
18. a. $\frac{7}{18}$
b. $6\frac{4}{5}$
19. a. $\frac{5}{4}$ OR $1\frac{1}{4}$
b. $\frac{3}{2}$ OR $1\frac{1}{2}$
20. $2\frac{1}{4}$ cups
21. $4\frac{1}{4}$ cups
22. \$75
23. 15 pieces
24. a. 10:65 OR 2:13 OR 10 to 65 OR
2 to 13 OR $\frac{10}{65}$ OR $\frac{2}{13}$
b. 30%
25. $11\frac{3}{8}$ yards
26. a. 41
b. 4
27. \$124
28. 6 km
29. 32
30. 15
31. 45
32. $\frac{30}{150}$ OR $\frac{1}{5}$ OR 0.2
33. m and l
34. l and p OR m and p
35. 65 degrees
36. $\angle A$ or $\angle C$ or $\angle ABD$ or
 $\angle ADB$ or $\angle DBC$
37. $\angle BDC$
38. 18 degrees
39. a. answers can vary: 2 x 8, 5 x 5
b. answers can vary: 3 x 8, 2 x 12
40. P = 60 units; A = 108 sq. units