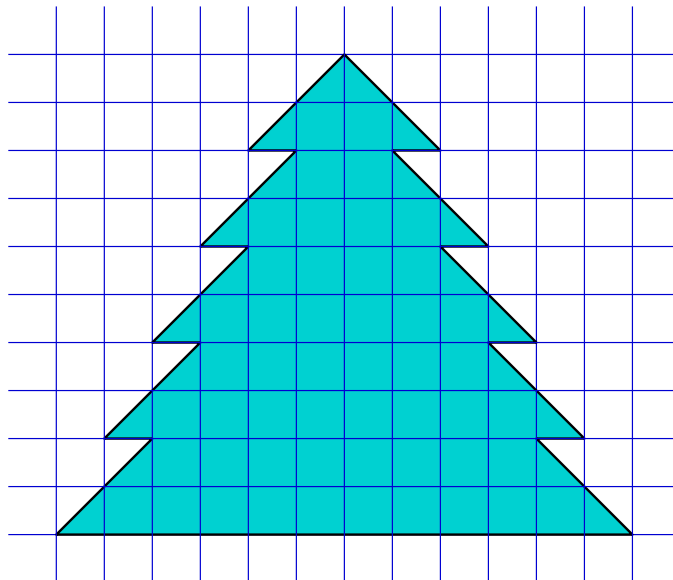


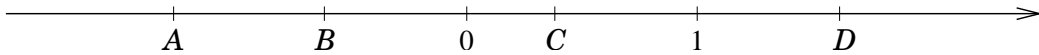
Practice Problems for Final Exam

1. Mr. Anderson gave $\frac{2}{5}$ of his money to his wife and spent $\frac{1}{2}$ of the remainder. If he has \$300 left, how much money did he have at first?
2. A pole, 90 cm long, is painted green, white, and black in the ratio 3 : 4 : 2. What length of the pole is painted green? What length of the pole is painted black?
3. A motorist traveled from Town A to Town B. He took 2 hours to cover the first half of the trip at an average speed of 75 km/h. If his average speed for the whole trip was 60 km/h, find his average speed for the second half of the trip.
4. Find the perimeter and area of the shaded area:



5. Answer “true” or “false”:
 - (a) 8 divides 24
 - (b) 15 is divisible by 30
 - (c) 70 is a multiple of 7
 - (d) 30 is a factor of 10
 - (e) Every natural number is either prime or composite.
 - (f) The quotient of two integer numbers is always an integer.
 - (g) The difference of two real numbers is always real.
 - (h) There exists a prime number larger than 1,000,000.
 - (i) $\pi = 3.14$.
 - (j) The number 3.14 is irrational.

6. Find the prime factorizations, greatest common factor, and least common multiple of 10^{15} and 15^{10} .
7. On her first five exams, Cathy received scores of 91, 80, 96, 91, and 83. What does Cathy need to get on the sixth exam in order for her average exam score to be 90?
8. Calculate $1 + 2 + 3 + \dots + 2008$.
9. Numbers A , B , C , and D are shown on the real number line below. Determine (approximately) the locations of the following numbers:

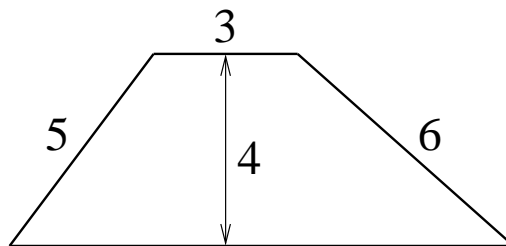


- (a) $A + D$
 - (b) $A - C$
 - (c) BC
 - (d) C/D
10. What is the 25th digit after the decimal point in the decimal representation of $1/7$?
 11. Find all
 - (a) natural
 - (b) integer
 - (c) real
 - (d) complex

solutions of the following equation: $(2x^2 + 3x + 1)(x^2 + 4x + 5) = 0$.

12. Which of the following polygons *can* be made?
 - (a) An equilateral right triangle.
 - (b) A trapezoid that has exactly one right angle.
 - (c) An obtuse triangle with exactly one acute angle.
 - (d) A regular pentagon with each interior angle having a measure of 72° .
 - (e) A parallelogram with diagonals that are perpendicular to each other.

13. Find the base, perimeter, and area of the trapezoid pictured below:



14. The surface area of a cube is 132 cm^2 . Find its volume.