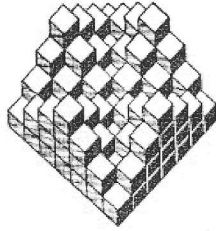


Place all answers in the blank spaces provided. Calculators are permitted. You are not expected to answer all of the questions. Give simplified exact answers.

- _____ 1. Count the number of blocks. Assume the blocks always rest on top of another block,



- _____ 2. A polynomial $P(x)$ has remainder three when divided by $x - 1$ and remainder five when divided by $x - 3$. Find the remainder when $P(x)$ is divided by $(x - 1)(x - 3)$
- _____ 3. If five cats can kill five rats in five minutes, how long will it take 100 cats to kill 100 rats?
- _____ 4. A tailor has a 45 yard bolt of fabric. He cut off 2 feet on the first day, 3 feet on the second day, and so on, cutting an additional foot off each day. If he starts on a Wednesday, on what day of the week will he last use his scissors?
- _____ 5. A 26-inch diameter tire has a lifetime of 10,000 miles. The spare in the trunk is the same kind of tire. You alternate all five tires so they are equally used on your traditional four-tire car, how many revolutions will each tire experience during its lifetime? Round your answer to the nearest hundredth.
- _____ 6. If 554 is the base b representation of the square of the number whose base b representation is 24, then find b written in base 10.
- _____ 7. What is the exact measure in degrees of the smallest positive angle formed by the minute and hour hands of a clock when the time is 7:30?
- _____ 8. A man has \$2.73 in pennies, nickels, dimes, quarters and half dollars. If he has an equal number of coins of each kind, then find the total number of coins.
- _____ 9. You drive 150 miles going 70 mph, and another 150 miles going 40 mph. Find your average speed for the entire trip. Express your answer as a mixed number.
- _____ 10. If you increase this year's salary by 20% each year for the next three years, what is the percent increase when you compare the final salary to the original salary?