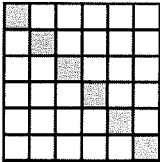




Warm-Up 3

21. _____ shifts A shift consists of rotating a two-digit number 90 degrees clockwise and then exchanging the position of the two digits. How many shifts must be performed before the number 19 returns to its original orientation?
22. _____ people The Population Reference Bureau reported a net gain of 155 people on Earth each minute. At this rate, how many more people are there on Earth every day?
23. _____ If $\frac{1}{x} + \frac{1}{x} + \frac{1}{x} + \frac{1}{x} = 24$, what is the value of x ? Express your answer as a common fraction.
24. _____ times Maximo wrote down two rows of numbers as shown. In the first row, he wrote the positive multiples of 7, starting with 7 and ending with 700. In the second row, he wrote the positive multiples of 13, starting with 13 and ending with 1300. How many times did corresponding pairs of terms in the first and second rows have the same units digit?
- | | | | | | | | |
|-------------|----|----|----|----|----|-----|------|
| First row: | 7 | 14 | 21 | 28 | 35 | ... | 700 |
| Second row: | 13 | 26 | 39 | 52 | 65 | ... | 1300 |
25. _____ In the 6×6 array of squares shown, two squares are adjacent if they share a side. What is the probability that two adjacent squares, chosen at random, are not the same color? Express your answer as a common fraction.
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26. _____ integers A *very round number* is a positive integer that has exactly one nonzero digit. How many integers less than one billion are very round numbers?
27. _____ Adding $\frac{3}{8}$ to a number increases it by 5% of its original value. What is the original number? Express your answer as a decimal to the nearest tenth.
28. _____ cm What is the height of a right rectangular prism with a length of 4 cm, a width of 3 cm and a volume of 108 cm^3 ?
29. _____ minutes Ms. Swift wrote 40 pages of notes, each page containing approximately 240 words. Chanel, who types 36 words per minute, volunteered to type some of Ms. Swift's notes, beginning at the first page and progressing through them in order. Marcus, who types 54 words per minute, volunteered to type some of Ms. Swift's notes, beginning at the last page and progressing through them in reverse order. If Chanel and Marcus begin at the same time, working together, how many minutes will it take them to finish typing the notes? Express your answer to the nearest whole number.
30. _____ days An exponentially talented salesman sells 1 car on his first day, 2 cars on his second day, 4 cars on his third day and so on, so that every day after the first, he sells twice as many cars as the day before. How many days does it take him to sell a total of at least 1000 cars?