

1. _____ Hal has a positive secret number. He performs a sequence of operations with his secret number. He doubles the number, subtracts 8, divides by 4, adds 2 and squares the result to get 25. What is Hal's secret number?

2. \$ _____ Toni goes to a department store and buys two shirts marked the same price. She pays full price for the first shirt but gets a 40% discount on the second shirt. If she pays a total of \$32.40 for the two shirts, how much did she pay for the second shirt?



3. _____ The table lists the number of Wednesdays on which the Norton Middle School cafeteria served each of four different entrées and each of three different desserts during the previous school year. If the entrée and dessert served each Wednesday were selected independently and randomly, based on this data, what is the probability that the Norton Middle School cafeteria served pizza and lemon cake on the first Wednesday of the previous school year? Express your answer as common fraction.

| Entree | | Dessert | |
|--------------|----|------------|----|
| Pizza | 15 | Lemon Cake | 20 |
| Chicken | 8 | Apple Pie | 8 |
| Fish & Chips | 10 | Brownies | 12 |
| Tacos | 7 | | |

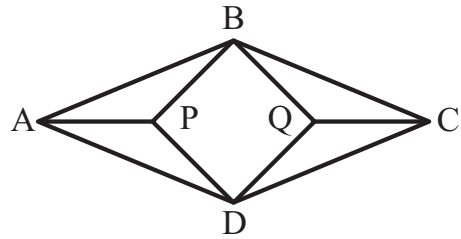
4. _____ integers How many integers x , with $0 < x \leq 100$, are divisible by 2, 3 and 4?

5. _____ Two circles, each of radius 5 units, have centers at the origin and at $(7, 7)$, respectively. What is the y -intercept of the line that contains their common chord?

6. _____ ways How many ways are there to choose positive integers a , b and c , not necessarily distinct, so that $a + b < c$ and $c \leq 5$?

7. _____ degrees

The figure shows points P and Q inside rhombus ABCD so that segments AP, BP, BQ, CQ, DQ and DP are all congruent. If the measure of angle BAD is 40° , what is the degree measure of angle PDQ?



8. _____ %

A company sells popcorn in cylindrical canisters. Marketing indicates that wider canisters will increase sales. If the diameter of the canister is increased by 27% while keeping the volume of the canister the same, by what percent must the height be decreased? Express your answer to the nearest whole number.

