# Warm-Up 1

31. _____ What is the value of $5 - 5 \times 5 + 5 \div 5$?

32. ___diagonals___ How many diagonals are in a convex heptagon?

33. _____ What is the first year after 2018 that is a palindrome?

34. _____ A standard 52-card deck of playing cards includes four aces. What is the probability that two cards selected randomly, without replacement, will both be aces? Express your answer as a common fraction.

35. _____ What is the value of $\sqrt{2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 7 \cdot 10}$? Express your answer in simplest radical form.

36. _____ °F The temperature dropped from 13 °F to −5 °F. How many degrees Fahrenheit is the absolute value of the change in temperature?

37. _____ What is the value of $1 \times 2 + 3 \div 6 \times 5 - 4$? Express your answer as a common fraction.

38. _____ If $x$ ® $y$ is defined as $x^2 - y^2$, what is the value of 3 ® (2 ® 1)?

39. _____ If the digits 7, 8, 2, 3 and 0 are used, each exactly once, to form a three-digit positive integer and a two-digit positive integer that differ by exactly 288, what is the sum of the three-digit integer and the two-digit integer?

40. ___degrees___ In rectangle ABCD, point P lies on side BC and point Q lies in the interior of the rectangle so that triangle APQ is equilateral. If the measure of angle PAB is 17 degrees, what is the measure of angle QPC?

# Warm-Up 2

41. _____ balls   Kim is knitting a baby blanket that requires 750 meters of yarn. There are 180 meters of yarn in each ball. How many balls of yarn must Kim buy to ensure she has enough yarn to complete her blanket?

42. _____ years old   On Chris' birthday in 1992, he was half the age of his brother Joseph. On Chris' birthday in 1998, he was two-thirds the age of Joseph. How old will Chris be on his birthday in 2018?

43. _____ degrees   On a standard 12-hour clock, the minute hand moves continuously, at a constant rate, making one full revolution every hour, and the hour hand moves similarly, making one full revolution every 12 hours. What is the measure of the smaller of the two angles between the minute hand and the hour hand, in degrees, when the clock reads 5:42?

44. _____   What is the value of the expression $12 \times 37 + 12 \times 7 + 12 \times 6$?

45. _____ factors   How many distinct positive factors does 2018 have?

46. _____   Two fair six-sided dice, with sides numbered 1 through 6, are rolled. What is the probability that the values on the two top faces add to at least 9? Express your answer as a common fraction.

47. _____   If the graph of the equation $y = mx + b$ is a line passing through the points (6, 13) and (10, 31), what is the value of $m$? Express your answer as a common fraction.

48. _____   Dewey buys soda in 12-ounce cans that cost \$1.00 each. Peppar buys soda in 20-ounce bottles that cost \$1.25 each. If Dewey and Peppar buy the same volume of soda in one week, then Peppar pays $P$% less than Dewey. What is the value of $P$?

49. _____ logs   Gerald Scheetz is building a log cabin. If each log is 9 inches in diameter, how many logs must be stacked on top of one another to create a wall that has a height of 12 feet?

50. _____ units²   A square with area 8 units² is inscribed in a circle. What is the area of the circle? Express your answer in terms of π.