

KEYSTONE EXAM REVIEW PACKET 1

Name _____

Period _____

1. _____ Which number is irrational?
- A. $\sqrt{9}$ B. $\sqrt{8}$
- C. 0.3333 D. $\frac{2}{3}$
2. _____ David bought a CD that cost \$18.99 and paid \$20.51, including sales tax. What was the rate of the sales tax?
- A. 5% B. 3%
- C. 2% D. 8%
3. _____ On February 18, from 9 a.m. until 2 p.m., the temperature rose from -14°F to 36°F . What was the total increase in temperature during this time period?
- A. 50° B. 36°
- C. 32° D. 22°
4. _____ What is the value of $\frac{x^2 - 4y}{2}$, if $x = 4$ and $y = -3$?
- A. -2 B. 2
- C. 10 D. 14
5. _____ What is a common factor of $x^2 - 9$ and $x^2 - 5x + 6$?
- A. $x + 3$ B. $x - 2$
- C. $x - 3$ D. x^2
6. _____ What is the sum of $\frac{2}{x}$ and $\frac{x}{2}$?
- A. 1 B. $\frac{4+x}{2x}$
- C. $\frac{2+x}{2x}$ D. $\frac{4+x^2}{2x}$

7. _____ If $2x^2 - x + 6$ is subtracted from $x^2 + 3x - 2$, the result is
- A. $x^2 + 2x - 8$ B. $-x^2 + 2x - 8$
C. $x^2 - 4x + 8$ D. $-x^2 + 4x - 8$
8. _____ The expression $(a^2 + b^2)^2$ is equivalent to
- A. $a^4 + b^4$ B. $a^4 + 2a^2b^2 + b^4$
C. $a^4 + a^2b^2 + b^4$ D. $a^4 + 4a^2b^2 + b^4$
9. _____ In the coordinate plane, the points (2, 2) and (2, 12) are the endpoints of a diameter of a circle. What is the length of the radius of the circle?
- A. 5 B. 7
C. 6 D. 10
10. _____ What is the least common denominator of $\frac{1}{2}$, $\frac{2}{7x}$, and $\frac{5}{x}$?
- A. $9x$ B. $14x$
C. $2x$ D. $14x^2$
11. _____ If $3x$ is one factor of $3x^2 - 9x$, what is the other factor?
- A. $3x$ B. $x - 3$
C. $x^2 - 6x$ D. $x + 3$
12. _____ If the temperature in Buffalo is 23° Fahrenheit, what is the temperature in degrees Celsius? Use the formula $C = \frac{5}{9}(F - 32)$.

A. -5 B. -45

C. 5 D. 45

13. _____ If $f(x) = 4x^0 + (4x)^{-1}$, what is the value of $f(4)$?

A. -12 B. 0

C. $1\frac{1}{16}$ D. $4\frac{1}{16}$

14. _____ Which expression represents the number of yards in x feet?

A. $\frac{x}{12}$ B. $3x$

C. $\frac{x}{3}$ D. $12x$

15. _____ Tara buys two items that cost d dollars each. She gives the cashier $\$20$. Which expression represents the change she should receive?

A. $20 - 2d$ B. $20 + 2d$

C. $20 - d$ D. $2d - 20$

16. _____ A pizza restaurant charges for pizzas and adds a delivery fee. The cost (c), in dollars to have any number of pizzas (p) delivered to a home is described by the function $c = 8p + 3$. Which statement is true?

A. The cost of 8 pizzas is $\$11$.

B. The cost of 3 pizzas is $\$14$.

C. Each pizza costs $\$8$ and the delivery fee is $\$3$.

D. Each pizza costs $\$3$ and the delivery fee is $\$8$.

17. _____ The points scored by a football team are shown in the steam-and-leaf plot below.



Key
1 3 = 13 points

What was the median number of points scored by the football team?

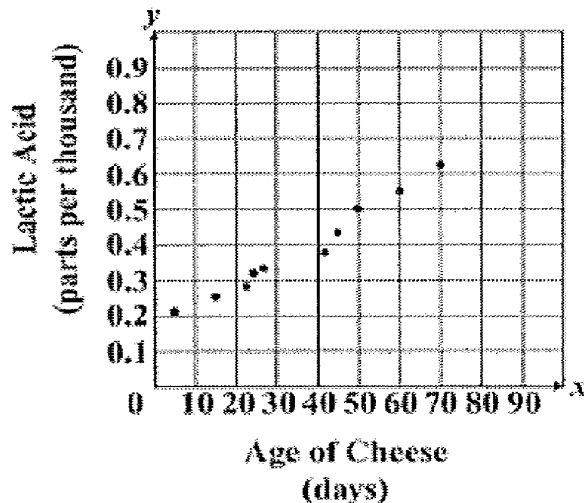
A. 24

B. 27

C. 28

D. 32

18. _____ The scatterplot below shows data from an experiment that tested the amount of lactic acid present in aging cheese.



Which best describes the relationship between the age of the cheese and the amount of lactic acid present in the cheese, as shown in the scatter plot?

A. There is no correlation.

B. There is a positive correlation.

C. There is a negative correlation.

D. There is a non-linear correlation.

19. _____ There are exactly 9 buttons in a bag. There are 4 blue buttons and 3 red buttons, and the rest are yellow. If one button is drawn at random from the bag, what is the probability that the button is yellow?

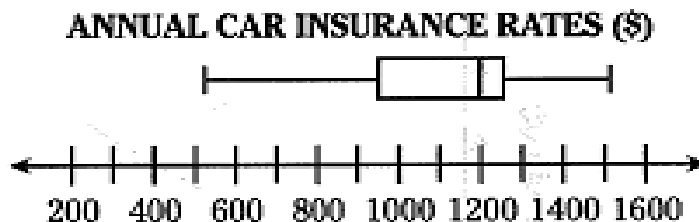
A. $\frac{1}{9}$

B. $\frac{1}{7}$

C. $\frac{2}{9}$

D. $\frac{2}{7}$

20. _____ Daisy gather information on annual car insurance rates in her area. These data are shown in the box-and-whisker plot below.



What amount is closest to the interquartile range of these rates?

A. \$300

B. \$525

C. \$675

D. \$950