

Factor:

1. $25x^2 - 36y^2$
2. $25a^2x^2y^2 - 49a^2z^2$
3. $-16 + 81y^2$
4. A bag contains 5 white marbles and 2 yellow marbles. One marble is drawn at random and not replaced. Then a second marble is drawn. What is the probability that the first marble is yellow and the second one is white?
5. Beauregard has a urn that contains 11 black marbles and 9 purple marbles. He randomly draws 2 marbles, one after the other. What is the probability that the first marble is black and the second marble is purple if the marbles are drawn
 - (a) with replacement?
 - (b) without replacement?
6. Larry has a bag that contains 5 black gum drops and 7 white gum drops. He randomly draws 2 gum drops, one after the other. What is the probability both gum drops are white if the gum drops are drawn
 - (a) without replacement?
 - (b) with replacement?

Factor:

7. $81x^2 - 25y^2$
8. $64a^2x^2y^2 - 36a^2z^2$
9. $-25 + 16y^2$
10. A bag contains 2 blue marbles and 5 red marbles. One marble is drawn at random and not replaced. Then a second marble is drawn. What is the probability that the first marble is red and the second one is blue?
11. Jesse has a purse that contains 8 copper coins and 5 gold coins. He randomly draws 2 coins, one after the other. What is the probability that the first coin is gold and the second coin is copper if the coins are drawn
 - (a) with replacement?
 - (b) without replacement?
12. Rachel has a jar that contains 8 yellow gum balls and 9 purple gum balls. She randomly draws 2 gum balls, one after the other. What is the probability both gum balls are yellow if the gum balls are drawn
 - (a) without replacement?
 - (b) with replacement?

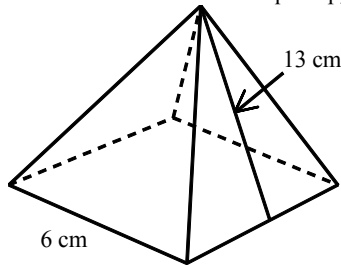
Factor.

13. $(e + f)x^2 + 7x(e + f) - 8(e + f)$

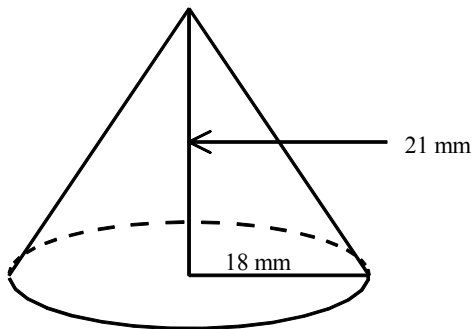
14. Factor. $(c + d)x^2 + 13x(c + d) + 36(c + d)$

- [A] $-(c + d)(x^2 - 13x + 36)$ [B] $(c + d)(x - 9)(x - 4)$ [C] $(c + d)(x + 9)(x + 4)$ [D] $(x + 9)(x + 4)$

15. Find the surface area of a square pyramid if the length of the base is 6 cm and the slant height is 13 cm.



16. Find the volume of the cone. (Use 3.14 for π . Round to the nearest hundredth.)



17. Simplify: $\sqrt{270}$

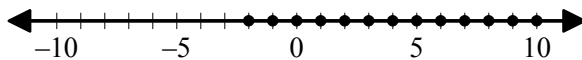
18. Indicate whether each of the following numbers is a rational or an irrational number.

- (a) -3 (b) $\frac{2}{3}$ (c) π (d) $2\sqrt{7}$

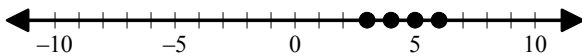
19. Indicate whether each of the following numbers is a rational or an irrational number.

- (a) $2 + \pi$ (b) $-\pi + 2 + \pi$ (c) $5\sqrt{2}$ (d) $4.\overline{58}$

20. Write an inequality whose solution is the graph shown below. Remember to designate the domain.



21. Write a conjunction that describes this graph. Specify the domain.



22. Graph the following inequality on a number line: $x + 2 \geq 7$; $D = \{\text{Real numbers}\}$

Factor.

23. $x^2 - x - 20$

24. $x^2 - 9x + 18$

25. $9g + g^2 + 20$