Test 34 (Lesson 132), Form A **SHOW YOUR WORK** **Name:** _____

Solve the following quadratic equations by completing the square:

1. $x^2 - 16 = 6x$ **2.** $x^2 + 1 = 3x$ **3.** $x^2 = 9 - 7x$

Use the quadratic formula to solve the following quadratic equations:

4. $3x = 4 - x^2$ **5.** $2x^2 - 6 = 3x$

6. A single six-sided die is rolled three times. What is the probability that a 6 will appear all three times?

Factor the following trinomials:

7. $3x^2 + x - 14$ **8.** $15 + 2x^2 - 11x$

Factor by grouping:

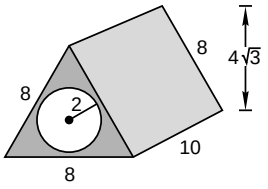
9. $xy - 2a - 2x + ay$ **10.** $2amn - 6n - 3m + am^2$

11. The number of green beads varied inversely as the square of the number of yellow beads. When there were 8 greens, there were 5 yellows. How many greens would there be if there were 10 yellows?

12. Simplify: $\dfrac{3\sqrt{3} + \sqrt{3}}{\sqrt{3}}$

13. Find the equation of the line through $(3, -6)$ that is parallel to $y = \frac{2}{3}x + 3$.

14. A cylinder whose radius is 2 inches is removed from the right prism as shown. The ends of the prism have the shape of an equilateral triangle whose sides are 8 inches long. Find the volume of the remaining solid in cubic inches. Dimensions are in inches.



15. Solve: $\sqrt{3m - 5} - 4 = -3$

16. Graph on a number line: $5 \le x + 3 < 7$; $D = \{\text{Reals}\}$

17. Melinda walked to the mall at 4 miles per hour and then rode back home in a bus at 24 miles per hour. If her total traveling time was 14 hours, how far was it to the mall?

18. Scott and Heather cut a 160-foot cord into two lengths. The ratio of the lengths was 7 to 1. How long was each length?

19. Simplify: $\left(5 + 2\sqrt{3}\right)\left(\sqrt{3} - 3\right)$ **20.** Solve: $\dfrac{5x}{2} - \dfrac{x - 2}{3} = 7$

TEST 34, FORM A

1. 8, –2

2. $\frac{3}{2} \pm \frac{\sqrt{5}}{2}$x

3. $-\frac{7}{2} \pm \frac{\sqrt{85}}{2}$

4. 1, – 4

5. $\frac{3}{4} \pm \frac{\sqrt{57}}{4}$

6. $\frac{1}{216}$

7. $(3x + 7)(x - 2)$

8. $(2x - 5)(x - 3)$

9. $(x + a)(y - 2)$

10. $(am - 3)(2n + m)$

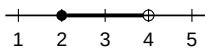
11. 2

12. 4

13. $y = \frac{2}{3}x - 8$

14. 151.53 in.^{3}

15. 2

16. 

17. 48 miles

18. 140 ft, 20 ft

19. $-9 - \sqrt{3}$

20. $\frac{38}{13}$