Name _____ Period _____ Date _____

Practice

Factoring Differences of Squares

Factor each polynomial, if possible. If the polynomial cannot be factored, write *prime*.

1. $k^2 - 100$

2. $81 - r^2$

3. $16p^2 - 36$

4. $4x^2 + 25$

5. $144 - 9f^2$

6. $36g^2 - 49h^2$

7. $121m^2 - 144n^2$

8. $32 - 8y^2$

9. $24a^2 - 54b^2$

10. $32s^2 - 18u^2$

11. $9d^2 - 32$

12. $36z^3 - 9z$

13. $45q^3 - 20q$

14. $100b^3 - 36b$

15. $3t^4 - 48t^2$

Solve each equation by factoring. Check your solutions.

16. $4y^2 = 81$

17. $64p^2 = 9$

18. $98b^2 - 50 = 0$

19. $32 - 162k^2 = 0$

20. $s^2 - \frac{64}{121} = 0$

21. $\frac{16}{49} - v^2 = 0$

22. $\frac{1}{36}x^2 - 25 = 0$

23. $27h^3 = 48h$

24. $75g^3 = 147g$

25. EROSION A rock breaks loose from a cliff and plunges toward the ground 400 feet below. The distance d that the rock falls in t seconds is given by the equation $d = 16t^2$. How long does it take the rock to hit the ground?

26. FORENSICS Mr. Cooper contested a speeding ticket given to him after he applied his brakes and skidded to a halt to avoid hitting another car. In traffic court, he argued that the length of the skid marks on the pavement, 150 feet, proved that he was driving under the posted speed limit of 65 miles per hour. The ticket cited his speed at 70 miles per hour. Use the formula $\frac{1}{24}s^2 = d$, where s is the speed of the car and d is the length of the skid marks, to determine Mr. Cooper's speed when he applied the brakes. Was Mr. Cooper correct in claiming that he was not speeding when he applied the brakes?

Name _____ Date _____ Period _____

Assignment _____

SHOW YOUR WORK IN THE SPACES PROVIDED *(one problem per space and number the problems)*

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