version 2

REVIEW PACKET FOR INCOMING GEOMETRY STUDENTS

This packet is designed to review essential Algebra 1 skills. This will prepare you for success in Geometry as well as subsequent higher level math courses

The completion of this review packet is a requirement for all students entering Triton, Highland, or Timber Creek High Schools. This packet will count towards your homework grade and you **must** have it **completed** to receive full credit. If you don't understand something, do your best to complete the problem and then make a note in the margin as a reminder to ask the teacher for a better explanation when you are in class.

Bring this packet with you on the first day of class because it will be reviewed in the first week of school and all problems will be explained. Then an assessment will be given after all problems have been reviewed.

Have a safe and enjoyable summer! Your teachers look forward to meeting you in September!

I. Solve

1. $3x-1=8$

2. $3-\frac{3}{4}x=-6$

3. $3(x-2)=18$

4. $\frac{3}{4}(24-8b)=2(5b+1)$

5. $6y-(3y-6)=5y-4$

6. $\frac{1}{2}(12+x)=\frac{3}{5}(5x-15)$

7. $4(a+3)=-3(a-2)$

8. $17=2(3j+1)-j$

9. $80-9k=6k$

10. $2[3(g+3)-(g-2)]=5(g+1)+4$

II. Simplify

11. $2x^3 + 3x^3 - 12x^3$

12. $\left(8x^2y\right)^2 - \left(-3x^2y\right)^2$

13. $(w-5)^2$

14. $\dfrac{42x^2y}{63x^3y^4}$

15. $(3x-2)(2x+7)$

16. $(3x+1)\left(2x^2-4x+6\right)$

17. $\dfrac{30a^4b - 45a^3b^2 + 15a^2b^3}{5a^2b}$

18. $-5d^2\left(6d^3 - 8d^2 + d\right)$

III. Evaluate

19. $x^2 - 5x + 6$, when $x = -3$

20. $(x+y)^3$, when $x = -12$ and $y = 8$

IV. Factor

21. $x^2 - 3x + 2$

22. $x^2 + 6x + 9$

23. $y^2 - 72 - 21y$

V. Factor and Solve

24. $(y+5)(y-9) = 0$

25. $0 = x^2 + 14x + 48$

26. $4r^2 + 121 = 44r$

VI. Solve Each Proportion

27. $\frac{(y-3)}{8} = \frac{3}{4}$

28. $\frac{2-x}{3-x} = \frac{4}{9}$

29. $\frac{6a-8}{7} = \frac{-40+4a}{-4}$

30. $\frac{3}{x} = \frac{x}{12}$

31. $\frac{-2}{(a-7)} = \frac{a}{5}$

32. $\frac{x-3}{5} = 6$

VII. Find the slope of the line that passes through the two given points.

33. (4, 1) and (6, 1)

34. (-6, 2) and (4, -2)

VIII. Find the slope and the y-intercept of the given lines.

35. $3y + 4x = 9$

36. $2x - 3y = -6$

IX. Word Problems

37. If a number is added to its square, the result is 56. Find the number.

38. The length of a rectangle is 8 cm greater than its width. Find the dimensions of the rectangle if its area is 105cm^2.

39. The population of Triton High School increased from 1800 students ten years ago to 1926 students last year. What was the percent increase?

40. A poster is 25 cm taller than it is wide. It is mounted on a piece of particle board so that there is a 5 cm border on all sides. If the area of the border alone is $1350 cm^2$, what are the dimensions of the poster?

Answers

1. x = 3
2. x = 12
3. x = 8
4. b = 1
5. y = 5
6. x = 6
7. $a = -\frac{6}{7}$
8. j = 3
9. $k = \frac{16}{3}$
10. g = 13
11. $-7x^3$
12. $55x^4y^2$
13. $w^2 - 10w + 25$
14. $\frac{2}{3xy^3}$
15. $6x^2 + 17x - 14$
16. $6x^3 - 10x^2 + 14x + 6$
17. $6a^2 - 9ab + 3b^2$
18. $-30d^5 + 40d^4 - 5d^3$
19. 30
20. -64
21. (x – 2)(x – 1)
22. $(x + 3)^2$
23. (y – 24)(y + 3)
24. y = -5 or 9
25. x = -6 or -8
26. $r = \frac{11}{2}$
27. y = 9
28. $x = \frac{6}{5}$
29. a = 6
30. x = 6 or -6
31. a = 5 or 2
32. x = 33
33. m = 0
34. $m = -\frac{2}{5}$
35. $m = -\frac{4}{3}$ and b = 3
36. $m = \frac{2}{3}$ and b = 2
37. x = -8 or 7
38. l = 15cm and w = 7cm
39. 7%
40. l = 75cm and w = 50cm