

GSE Algebra I

Name \_\_\_\_\_

Factoring Quadratic Trinomials

Directions: USE A SEPARATE SHEET OF PAPER. Please factor the following expressions. If any of the following expressions cannot be factored, please indicate so by stating "prime".

1.  $x^2 + 5x + 4 = (x+1)(x+4)$

2.  $x^2 + 12x + 32 = (x+8)(x+4)$

3.  $x^2 + 15x + 50 = (x+5)(x+10)$

4.  $a^2 - 5a - 24 = (a-8)(a+3)$

5.  $a^2 + 5a - 24 = (a+8)(a-3)$

6.  $r^2 + 2r - 48 = (r+8)(r-6)$

7.  $2x^2 + 12x - 144 = 2(x-6)(x+12)$

8.  $4d^2 + 8d + 320 = 4(d^2 + 2d + 80)$  cannot factor more

9.  $x^2 - 6x + 9 = (x-3)(x-3)$

10.  $15m^2 + m^2 + 54 = (m+6)(m+9)$

\* Trinomial Square  $x^2 - 8x + 16 = (x-4)(x-4)$

12.  $x^2 - 12x + 20 = (x-10)(x-2)$

11.  $32 + x^2 - 33x = x^2 - 33x + 32 = (x-32)(x-1)$

14.  $-25d + 156 + d^2 = d^2 - 25d + 156 = (d-12)(d-13)$

13.  $5b^2 + 5b - 360 = 5(b^2 + b - 72) = 5(x+9)(x-8)$

16.  $-f^2 - 11f - 26 = -1(f^2 + 11f + 26) = \text{cannot factor more}$

15.  $b^2 - 10b + 24 = (b-6)(b-4)$

18.  $3x^2 + 10x - 25 = (3x-5)(x+5)$

17.  $6x^2 - 13x - 5 = (3x+1)(2x-5)$

20.  $-12x^2 + 14x + 6 = -2(3x+1)(2x-3)$

19.  $10x^2 + 17x + 3 = (5x+1)(2x+3)$

22.  $3x^2 - 32x + 45 = (3x-5)(x-9)$

21.  $24x^2 - 56x - 10 = 2(12x^2 - 28x - 5) = 2(6x+1)(2x-5)$

24.  $12x^2 - 8x - 15 = (6x+5)(2x-3)$

23.  $-14x^2 + 9x - 1 = -1(14x^2 - 9x + 1) = -1(2x-1)(7x-1)$

26.  $11x^2 + 35x + 6 = (x+3)(11x+2)$

25.  $x^2 - 16 = (x+4)(x-4)$

27.  $4x^2 - 25 = (2x+5)(2x-5)$

28.  $3x^2 - 75 = 3(x^2 - 25) = 3(x+5)(x-5)$