

Period .

7.7

Name

Date

Factoring special cases.

1) $h^2 + 10h + 25$

$(h+5)(h+5)$ $\begin{matrix} 25 \\ 5 \cdot 5 \end{matrix}$
 $\frac{5}{5}$
 $\frac{10}{10}$
 $(h+5)^2$

2) $v^2 - 14v + 49$

$(v-7)(v-7)$ $\begin{matrix} 49 \\ 7 \cdot 7 \end{matrix}$
 $(v-7)^2$

3) $d^2 - 22d + 121$

$(d-11)(d-11)$ $\begin{matrix} 121 \\ 11 \cdot 11 \end{matrix}$
 $(d-11)^2$

4) $m^2 + 4m + 4$

$(m+2)(m+2)$ $\begin{matrix} 4 \\ 2 \cdot 2 \end{matrix}$
 $(m+2)^2$

5) $q^2 + 6q + 9$

$(q+3)(q+3)$ $\begin{matrix} 9 \\ 3 \cdot 3 \end{matrix}$
 $(q+3)^2$

6) $p^2 - 24p + 144$

$(p-12)(p-12)$ $\begin{matrix} 144 \\ 12 \cdot 12 \end{matrix}$
 $(p-12)^2$

7) $36x^2 + 60x + 25$

$(6x+5)(6x+5)$ $\begin{matrix} 36 \\ 6 \cdot 6 \end{matrix}$
 $(6x+5)^2$

8) $64x^2 + 48x + 9$

$(8x+3)(8x+3)$ $\begin{matrix} 64 \\ 8 \cdot 8 \end{matrix}$ $\begin{matrix} 9 \\ 3 \cdot 3 \end{matrix}$
 $(8x+3)^2$

$$9) \quad 49n^2 + 14n + 1$$

$$\begin{array}{l} 49 \\ \wedge \\ 77 \end{array} (7n+1) (7n+1) \quad \begin{array}{l} 1 \\ \wedge \\ 11 \end{array}$$

$$(7n+1)^2$$

$$10) \quad 16x^2 - 72x + 81$$

$$\begin{array}{l} 16 \\ \wedge \\ 44 \end{array} (4x-9) (4x-9) \quad \begin{array}{l} 81 \\ \wedge \\ 59 \end{array}$$

$$(4x-9)^2$$

$$11) \quad 25t^2 - 80t + 64$$

$$\begin{array}{l} 25 \\ \wedge \\ 55 \end{array} (5t-8) (5t-8) \quad \begin{array}{l} 64 \\ \wedge \\ 88 \end{array}$$

$$(5t-8)^2$$

$$12) \quad 9q^2 - 24q + 16$$

$$\begin{array}{l} 9 \\ \wedge \\ 33 \end{array} (3q-4) (3q-4) \quad \begin{array}{l} 16 \\ \wedge \\ 44 \end{array}$$

$$(3q-4)^2$$

$$13) \quad 81w^2 + 144w + 64$$

$$\begin{array}{l} 81 \\ \wedge \\ 99 \end{array} (9w+8) (9w+8) \quad \begin{array}{l} 64 \\ \wedge \\ 88 \end{array}$$

$$(9w+8)^2$$

$$14) \quad 16e^2 - 88e + 121$$

$$16 (4e-11) (4e-11) \quad 121$$

$$(4e-11)^2$$

$$15) \quad 25j^2 + 100j + 100$$

$$(5j+10) (5j+10)$$

$$(5j+10)^2$$

$$16) \quad 144f^2 - 24f + 1$$


$$(12f-1)^2$$

$$17) \quad 4a^2 - 36a + 81$$

$$(2a-9)^2$$

$$18) \quad 49d^2 - 84d + 36$$

$$(7d-6)^2$$

19)  The given expression represents the area. Find the side of the square.

$$64x^2 + 80x + 25$$

$$(8x + 5)$$

(side)(side)

20) 


$$9y^2 - 24y + 16$$

$$(3y - 4)$$

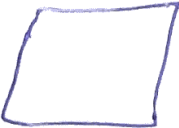
21) 

$$4t^2 + 36t + 81$$

$$(2t + 9)$$

23) 
 $100w^2 + 20w + 1$

$$(10w + 1)$$

22) 
 $36x^2 + 84x + 49$
 $(6x + 7)$

Factor each expression

24) $m^2 - 49$
 $(m + 7)(m - 7)$

25) $x^2 - 25$

$$(x + 5)(x - 5)$$

26) $x^2 - 625$
 $(x + 25)(x - 25)$

27) $c^2 - 100$
 $(c + 10)(c - 10)$

$$28) p^2 - 16$$

$$(p+4)(p-4)$$

$$29) 4a^2 - 25$$

$$(2a+5)(2a-5)$$

$$30) 64n^2 - 1$$

$$(8n+1)(8n-1)$$

$$31) 25x^2 - 144$$

$$(5x+12)(5x-12)$$

$$32) 50g^2 - 8$$

$$2(25g^2 - 4)$$

$$2(5g+2)(5g-2)$$

$$33) 8d^2 - 8$$

$$8(d^2 - 1)$$

$$8(d+1)(d-1)$$

$$34) \overset{3 \cdot 9}{27}x^2 - \overset{3 \cdot 16}{48}$$

$$3(9x^2 - 16)$$

$$3(3x^2+4)(3x-4)$$

$$35) \overset{6 \cdot 4}{24}e^2 - \overset{6 \cdot 9}{54}$$

$$6(4e^2 - 9)$$

$$6(2e+3)(2e-3)$$

$$36) \overset{5 \cdot 49}{245}x^2 - \overset{5 \cdot 4}{20}$$

$$5(49x^2 - 4)$$

$$5(7x+2)(7x-2)$$

$$37) \overset{7 \cdot 16}{112}h^2 - \overset{7 \cdot 9}{63}$$

$$7(16h^2 - 9)$$

$$7(4h+3)(4h-3)$$

$$38) 48x^2 + 72x + 27$$

$$3(16x^2 + 24x + 9)$$

$$3(4x+3)(4x+3)$$

$$3(4x+3)^2$$

$$39) 8b^2 + 80b + 200$$

$$8(b^2 + 10b + 25)$$

$$8(b+5)(b+5)$$

$$8(b+5)^2$$

$$40) \quad 48w^2 + 48w + 12$$

$$12(4w^2 + 4w + 1)$$

$$12(2w+1)(2w+1)$$

$$41) \quad 45x^2 - 210x + 245$$

$$5(9x^2 - 42x + 49)$$

$$5(3x-7)(3x-7)$$

$$5(3x-7)^2$$

$$47) \quad 45t^2 - 72t + 24$$

$$3(15t^2 - 24t + 8)$$

$$1) \quad 1^2 \quad 1 \times 1 = 1$$

$$2^2 \quad 2 \times 2 = 4$$

$$3^2 \quad 3 \times 3 = 9$$

$$4^2 \quad 4 \times 4 = 16$$

$$5^2 \quad 5 \times 5 = 25$$

$$6^2 \quad 6 \times 6 = 36$$

$$7^2 \quad 7 \times 7 = 49$$

$$8^2 \quad 8 \times 8 = 64$$

$$9^2 \quad 9 \times 9 = 81$$

$$10^2 \quad 10 \times 10 = 100$$

$$11^2 \quad 11 \times 11 = 121$$

$$12^2 \quad 12 \times 12 = 144$$

$$13^2 \quad 13 \times 13 = 169$$

$$14^2 \quad 14 \times 14 = 196$$

$$15^2 \quad 15 \times 15 = 225$$

$$16^2 \quad 16 \times 16 = 256$$

$$17^2 \quad 17 \times 17 = 289$$

$$18^2 \quad 18 \times 18 = 324$$

$$19^2 \quad 19 \times 19 = 361$$

$$20^2 \quad 20 \times 20 = 400$$

$$21^2 \quad 21 \times 21 = 441$$

$$22^2 \quad 22 \times 22 = 484$$

$$23^2 \quad 23 \times 23 = 529$$

$$24^2 \quad 24 \times 24 = 576$$

$$25^2 \quad 25 \times 25 = 625$$