

# Kuta Alg. I Factoring Special Cases (solutions)

Wednesday, November 8, 2017 2:42 PM

## Factoring Special Cases

Factor each completely.

1)  $16n^2 - 9$

$$(4n+3)(4n-3)$$

2)  $4m^2 - 25$

$$(2m+5)(2m-5)$$

3)  $16b^2 - 40b + 25$

$$(4b - 5)^2$$

4)  $4x^2 - 4x + 1$

$$(2x - 1)^2$$

5)  $9x^2 - 1$

$$(3x+1)(3x-1)$$

6)  $n^2 - 25$

$$(n+5)(n-5)$$

7)  $n^4 - 100$

$$(n^2+10)(n^2-10)$$

8)  $a^4 - 9$

$$(a^2+3)(a^2-3)$$

9)  $k^4 - 36$

$$(k^2+6)(k^2-6)$$

10)  $n^4 - 49$

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

11)  $98n^2 - 200$

$$\frac{2(49n^2 - 100)}{2(7n+10)(7n-10)}$$

12)  $3 + 6b + 3b^2$

$$\frac{3b^2 + 6b + 3}{3(b^2 + 2b + 1)} \\ \underline{3(b+1)^2}$$

13)  $400 - 36v^2$

$$\frac{4(100 - 9v^2)}{4(10+3v)(10-3v)}$$

14)  $100x^2 + 180x + 81$

$$\underline{(10x+9)^2}$$

15)  $10n^2 + 100n + 250$

$$\frac{10(n^2 + 10n + 25)}{10(n+5)^2}$$

16)  $49n^2 - 56n + 16$

$$\underline{(7n-4)^2}$$

17)  $49x^2 - 100$

$$\underline{(7x+10)(7x-10)}$$

18)  $1 - r^2$

$$\underline{(1+r)(1-r)}$$

19)  $10p^3 - 1960p$

$$\frac{10p(p^2 - 196)}{10p(p+14)(p-14)}$$

20)  $343b^2 - 7b^4$

$$\frac{7b^2(49 - b^2)}{7b^2(7+b)(7-b)}$$

21)  $81v^4 - 900v^2$

$$\frac{9v^2(9v^2 - 100)}{9v^2(3v+10)(3v-10)}$$

22)  $200m^4 + 80m^3 + 8m^2$

$$\frac{8m^2(25m^2 + 10m + 1)}{8m^2(5m+1)^2}$$

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**Factor each completely.**

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2)  $4m^2 - 25$

$(2m + 5)(2m - 5)$

3)  $16b^2 - 40b + 25$

$(4b - 5)^2$

4)  $4x^2 - 4x + 1$

$(2x - 1)^2$

5)  $9x^2 - 1$

$(3x + 1)(3x - 1)$

6)  $n^2 - 25$

$(n + 5)(n - 5)$

7)  $n^4 - 100$

$(n^2 + 10)(n^2 - 10)$

8)  $a^4 - 9$

$(a^2 + 3)(a^2 - 3)$

9)  $k^4 - 36$

$(k^2 + 6)(k^2 - 6)$

10)  $n^4 - 49$

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

$$11) 98n^2 - 200$$
$$2(7n + 10)(7n - 10)$$

$$12) 3 + 6b + 3b^2$$
$$3(1 + b)^2$$

$$13) 400 - 36v^2$$
$$4(10 + 3v)(10 - 3v)$$

$$14) 100x^2 + 180x + 81$$
$$(10x + 9)^2$$

$$15) 10n^2 + 100n + 250$$
$$10(n + 5)^2$$

$$16) 49n^2 - 56n + 16$$
$$(7n - 4)^2$$

$$17) 49x^2 - 100$$
$$(7x + 10)(7x - 10)$$

$$18) 1 - r^2$$
$$(1 + r)(1 - r)$$

$$19) 10p^3 - 1960p$$
$$10p(p + 14)(p - 14)$$

$$20) 343b^2 - 7b^4$$
$$7b^2(7 + b)(7 - b)$$

$$21) 81v^4 - 900v^2$$
$$9v^2(3v + 10)(3v - 10)$$

$$22) 200m^4 + 80m^3 + 8m^2$$
$$8m^2(5m + 1)^2$$

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