

Accelerated Math 1
Factoring 1

Name Ms. Scov

Factor each of the following.

1. $y^2 - 5y$

$$y(y-5)$$

2. $4a^2 + 2a$

$$2a(2a+1)$$

3. $x^3 + 9x^2$

$$x^2(x+9)$$

4. $3x^2 + 12$

$$3(x^2+4) = \boxed{3(x+2i)(x-2i)}$$

5. $7y^3 + 14y^2$

$$7y^2(y+2)$$

6. $6x^2y^3 + 21xy^2$

$$3xy^2(2xy+7)$$

7. $9x^3y^2 - 6x^2y^3 + 3x^3y^3$

$$3x^2y^2(3x-2y+xy)$$

8. $24x^3 + 36x^2 + 72x$

$$12x(2x^2+3x+6)$$

9. $x^2 - 16$

$$(x+4)(x-4)$$

10. $9x^2 - 25y^2$

$$(3x+5y)(3x-5y)$$

11. $4a^2 - 49$

$$(2a+7)(2a-7)$$

12. $100y^2 - 81$

$$(10y+9)(10y-9)$$

GCF

DOTS

GROUPING

13. $6x^2 - 6y^2$

$$6(x^2 - y^2)$$
$$= \boxed{6(x+y)(x-y)}$$

14. $x^2 - 144$

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

15. $3x(y+1) - 4(y+1)$

$$(y+1)(3x-4)$$

16. $5(3x-7) + 2y(3x-7)$

$$(3x-7)(5+2y)$$

17. $x^3 + 6x^2 + 2x + 12$

$$x^2(x+6) + 2(x+6)$$

$$(x+6)(x^2+2)$$

$$= \boxed{(x+6)(x+i\sqrt{2})(x-i\sqrt{2})}$$

19. $w^2 - 14w + 45$

$$(w-9)(w-5)$$

18. $(m^3 - m^2) \div (3m+3)$

$$m^2(m-1) - 3(m-1)$$

$$(m-1)(m^2-3)$$

$$= \boxed{(m-1)(m+\sqrt{3})(m-\sqrt{3})}$$

20. $x^2 + 2x - 24$

$$(x+6)(x-4)$$

21. $r^2 + 12r + 20$

$$(r+10)(r+2)$$

22. $y^2 - 15y + 54$

$$(y-9)(y-6)$$

23. $g^2 - 5g + 6$

$$(g-3)(g-2)$$

24. $k^2 - k - 20$

$$(k-5)(k+4)$$