1. $-7x^2+8$
$\pm\ominus x^3 \mp 3x^2 \ominus 4$
x^3-10x^2+4 B.

2. $5x^5-13x^3-14$
$+\ominus 7x^5 \mp 16x^3 \pm 4$
$=2x^5-29x^3-10$ B.

3. $2x^7-18x^6+14$
$+\ominus 7x^7 \mp 8x^6 \mp 3$
$-5x^7-26x^6+11$ C.

4. $3x^5 + 9x^4 + 6x$
$+ 7x^5 - 6x^4 + 7x$
$10x^5 + 3x^4 + 13x$ A

5. $(-2x-12)(-2x-10)$
$4x + 20x$
$+ 24x + 120$
$4x + 44x + 120$
A.

6. $(x+7y)(x-11y)$ B.
$x^2 - 11xy$
$+ 7xy - 77y^2$
$x^2 - 4xy - 77y^2$

7. $(x-7y)(4x-8y)$ D.

$4x^2 - 8xy$

$-28xy + 56y^2$

$4x^2 - 36xy + 56y^2$

8. $(-2x+10y)(5x+6y)$

$-10x^2 - 12xy$

$+50xy + 60y^2$

D. $-10x^2 + 38xy + 60y^2$

9. $(9y+x)(9y-x)$ A.

$81y^2 - 9xy$

$+9xy - x^2$

$81y^2 - x^2$

10. $(8x-5)^2$

$64x^2 - 80x + 25$ (B)

$8x \cdot -5 = -40x \cdot 2 = -80x$

11. $(b-2)^2 = (b^2) - (2^2)$

$b^2 - 2b2 - 2^2$ (A)

$b \cdot -2 = -b2 \cdot 2 = -2b2$

12. $(8x+3y)^2 = (8x)^2 + (3y)^2$

$64x^2 + 48xy + 9y^2$ (B)

$8x \cdot 3y = 24xy \cdot 2 = 48xy$

13. $6x \overline{)18x^7 - 30x^3}$

Quotient: $3x^6 - 5x^2$

$-18x^7$

$-30x^3$

$-30x^3$

0

D.

14. $5x \overline{)35x^2 + 10x - 11}$

Quotient: $7x + 2$

$-35x^2$

$+10x$

$-10x$

$R = -11$

D.

15. $9-x^2$

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

$9 + 3x - 3x - x^2$ (D)

$9 - x^2$

---

16. $x^3 - 512$ (C)

$(x-8)(x^2+8x+64)$

$x^3 + 8x^2 + 64x$

$-8x^2 - 64x - 512$

$x^3 - 512$

17. x^3+729 D.

$(x+9)(x^2-9x+81)$

$x^3 - 9x + 81x$

$+9x - 81x + 729$

x^3+729

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

$5+-2=3$

$(x+5)(x-2)$ C.

19. x^2+36 = prime

$6x \cdot 2 = 12x$

$(x+6)^2 =$ Wrong

$x^2+12x+36$

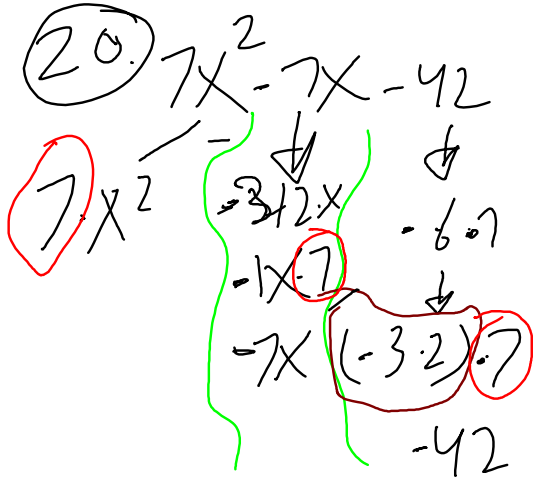
$(x-6)^2 =$ $x \cdot 6 = 6 \cdot 2$

$-12x$

$x^2-12x+36$ Wrong

$(x+6)(x-6)$ Wrong

$x^2 - 6x + 6x - 36 = x^2 - 36$



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

B.

21. $5x^2 - 35x + 60$

$5(x^2 - 7x + 12)$

$-4 + -3$ | 1

$-4 \cdot -3$

-7 | 12

$5(x-4)(x-3)$

A.

22. $15x^2 - 65 - 50$

NO NO

$5(x^2 - 13 - 10)$ ← not divisible

~~$5(10 \cdot 1)$~~

~~$5(5 \cdot 2)$~~

Prime D.

(23) $6x^2 - 21x - 12$

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

Prime D.

Only way to simplify

no way to break this down further

24.

$x+5 \overline{)x^5+8x^4+13x^3-8x^2+12x+13}$

	1	8	13	-8	12	13
-5		-5	-15	10	-10	-10
	1	3	-2	2	2	3

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

R3

A.

25. $x^4 \div x-3$

$x-3 \overline{)x^4+0x^3+0x^2+0x-4}$

3	1	0	0	0	-4
		3	9	27	81
	1	3	9	27	77

$x^3+3x^2+9x+27$

A

R 77