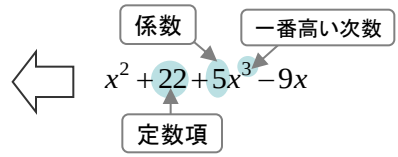
【解答】 数学Ⅰ

問1	(1)	定数項： 22	(2)	係数： 5



問2		
	(1)	$10x^2+3x+2+2x^2+7-9x=10x^2+2x^2+3x-9x+2+7$ $=(10+2)x^2+(3-9)x+9=\boxed{12x^2-6x+9}$ 答
	(2)	$b+3a+5c+2b-5a-c=3a-5a+b+2b+5c-c=\boxed{-2a+3b+4c}$ 答

問3				
	(1)	$x^3\times x^5=x^{3+5}=\boxed{x^8}$ 答	(2)	$a^7\div a^6=a^{7-6}=a^1=\boxed{a}$ 答
	(3)	$(x^5)^2=x^{5\times2}=\boxed{x^{10}}$ 答	(4)	$(a^2b)^5=a^{2\times5}b^5=\boxed{a^{10}b^5}$ 答
	(5)	$\dfrac{3^6}{3^4}=3^{6-4}=3^2=\boxed{9}$ 答	(6)	$\left(\dfrac{2}{x}\right)^3=\dfrac{2^3}{x^3}=\boxed{\dfrac{8}{x^3}}$ 答
	(7)	$9^0=\boxed{1}$ 答	(8)	$x^4\times x^{-4}=x^{4-4}=x^0=\boxed{1}$ 答
	(9)	$x^5\div x^3\times x^2\times x=x^{5-3+2+1}=\boxed{x^5}$ 答	(10)	$\dfrac{a^9}{a^3\times a^4}=\dfrac{a^9}{a^{3+4}}=\dfrac{a^9}{a^7}=a^{9-7}=\boxed{a^2}$ 答

問4		
	(1)	$5x(x+2y+3)=5x\times x+5x\times2y+5x\times3=\boxed{5x^2+10xy+15x}$ 答
	(2)	$(a+2b)(3a+5)=a\times3a+a\times5+2b\times3a+2b\times5=\boxed{3a^2+5a+6ab+10b}$ 答
	(3)	$(x+1)(x-1)(3-4x)=(x^2-1)(3-4x)$ $=x^2\times3-x^2\times4x-3+4x=3x^2-4x^3-3+4x=\boxed{-4x^3+3x^2+4x-3}$ 答
	(4)	$(3x-5)^2=(3x)^2+2\times3x\times(-5)+(-5)^2=\boxed{9x^2-30x+25}$ 答
	(5)	$(2x+7)(2x-7)=(2x)^2-7^2=\boxed{4x^2-49}$ 答
	(6)	$(x+8)(x-3)=x^2+(8-3)x-24=\boxed{x^2+5x-24}$ 答
	(7)	$(2x+5)(3x-4)=(2x)\times(3x)+(2x\times(-4)+5\times3x)+5\times(-4)$ $=6x^2+(-8x+15x)-20=\boxed{6x^2+7x-20}$ 答
	(8)	$(x+y+z)^2=(x+y+z)(x+y+z)=x\times x+x\times y+x\times z+y\times x+y\times y+y\times z+z\times x+z\times y+z\times z$ $=x^2+xy+xz+xy+y^2+yz+xz+yz+z^2=\boxed{x^2+y^2+z^2+2xy+2xz+2yz}$ 答

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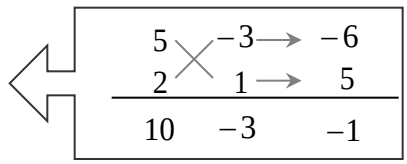
問5	(1)	$5x^2-10x=\boxed{5x(x-2)}$ 答
	(2)	$3abc+6bc+15bc^2=bc(3a+6+15c)=\boxed{3bc(a+2+5c)}$ 答
	(3)	$x^2+12x+36=x^2+2\times6x+6^2=\boxed{(x+6)^2}$ 答
	(4)	$2x^2-8x+8=2(x^2-4x+4)=2(x^2-2\times2x+2^2)=\boxed{2(x-2)^2}$ 答
	(5)	$36-a^2=6^2-a^2=\boxed{(6+a)(6-a)}$ 答
	(6)	$x^2+11x+18=x^2+(2+9)x+2\times9=\boxed{(x+2)(x+9)}$ 答
	(7)	$x^2+2x-24=x^2+(6-4)x+6\times(-4)=\boxed{(x+6)(x-4)}$ 答
	(8)	$10x^2-x-3=\boxed{(5x-3)(2x+1)}$ 答 

Challenge 問題

(1)		$\dfrac{a^{-3}\times a^{-2}}{a^{-5}\times a^{-4}}=\dfrac{a^{-3-2}}{a^{-5-4}}=\dfrac{a^{-5}}{a^{-9}}=a^{-5}\times a^{9}=a^{-5+9}=\boxed{a^4}$ 答
(2)	①	$(x+y)(x^2-xy+y^2)=x\times x^2-x\times xy+x\times y^2+y\times x^2-y\times xy+y\times y^2$ $=x^3-x^2y+xy^2+x^2y-xy^2+y^3=\boxed{x^3+y^3}$ 答
	②	$(x+1)^3=(x+1)(x+1)^2=(x+1)(x^2+2x+1)=x^3+2x^2+x+x^2+2x+1=\boxed{x^3+3x^2+3x+1}$ 答
(3)	①	$25x^2-20x+4=(5x)^2+2\times5x\times(-2)+(-2)^2=\boxed{(5x-2)^2}$ 答
	②	$x^2=t$ と置く $x^4+x^2-2=t^2+t-2=t^2+(2-1)t+2\times(-1)$ $=(t+2)(t-1)=(x^2+2)(x^2-1)=\boxed{(x^2+2)(x+1)(x-1)}$ 答 $t=x^2$ を代入