POLYNOMIAL REVIEW

NAME:

(1) DETERMINE IF EACH EXPRESSION IS A POLYNOMIAL. IF IT IS A POLYNOMIAL, FIND THE DEGREE AND DETERMINE IF IT IS A MONOMIAL, BINOMIAL, OR TRINOMIAL.

(A) $3y^2 - 2$

(B) $4t^5 + 3t^2 + t$

(C) $\frac{3x}{5y}$

(D) ax^{-3}

(E) $3b^2$

(F) $2x^{-3} + 4x + 1$

(2) FIND EACH SUM OR DIFFERENCE.

(A) $(y^2 + 2y + 3) + (y^2 + 3y - 1)$

(B) $(3n^3 - 2n + 7) - (n^2 - 2n + 8)$

(C) $(5d + d^2) - (4 - 4d^2)$

(D) $(x + 4) + (3x + 2x^2 - 7)$

(E) $(3a - 3b + 2) - (4a + 5b)$

(F) $(8x - y^2 + 3) + (9 - 3x + 2y^2)$

(3) FIND EACH PRODUCT

(A) $6y(y^2 + 3y + 1)$

(B) $3n(n^2 - 5n + 2)$

(3) CONTINUED

(C) $d^2(-4-3d+2d^2)$

(D) $-2xy(3x^2+2xy-4y^2)$

(E) $ab^2(12a+5b-ab)$

(F) $x^2y^4(3xy^2-x+2y^2)$

(4) SIMPLIFY $x(4x+5)+3(2x^2-4x+1)$

(5) FIND EACH PRODUCT.

(A) $(x+2)(x+5)$

(B) $(3b-2)(b-4)$

(C) $(n-5)(n+3)$

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

(E) $(k-1)(k-3k^2)$

(5) CONTINUED

(F) $(3x^2 + 2x - 1)(2x^2 - 3x + 2)$

(G) $(2x + 1)(3x^4 + 2x^3 + x^2 - 2x + 1)$

(H) $(x + 1)(x - 1)$

(I) $(x + 2)(x - 2)$

(J) $(2y - 5)(2y + 5)$

OLD STUFF

(6) GIVEN $f(x) = 3x^2 + 1$

(A) WHAT IS $f(2)$?

(B) WHAT IS $f(0)$?

(C) FOR WHAT X VALUE IS $f(x) = 49$?

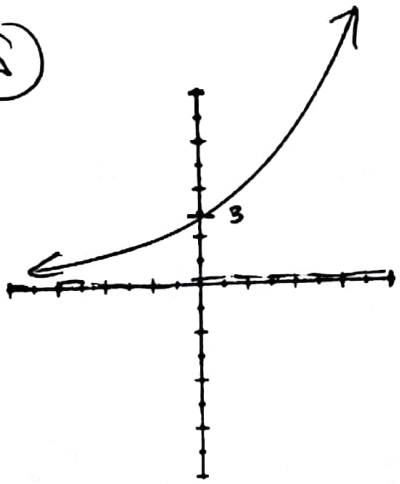
(7) WHAT IS THE AVERAGE RATE OF CHANGE OF $f(x) = 2x^2 + 1$ ON THE INTERVAL $x = 0$ TO $x = 2$?

(8) WHAT IS THE SLOPE OF THE LINE PERPENDICULAR TO THE LINE THAT PASSES THROUGH $(2, 5)$ AND $(-3, 1)$?

(9) SOLVE $-11x - 13 > 42$

(10) FIND THE DOMAIN AND RANGE FOR EACH FUNCTION GRAPHED BELOW.

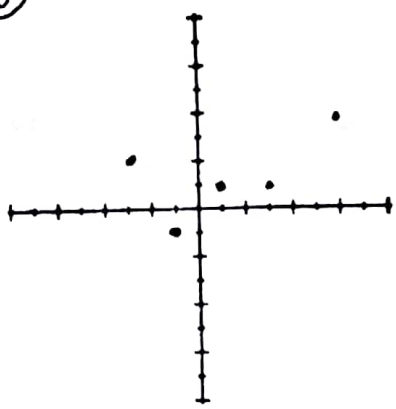
(A)



D:

R:

(B)



D:

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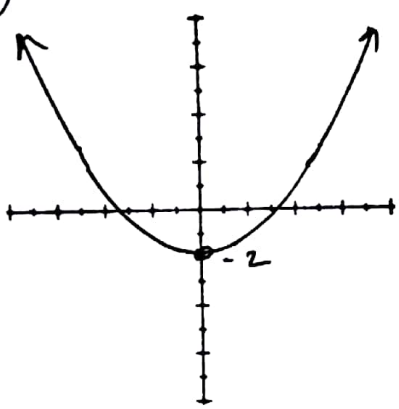
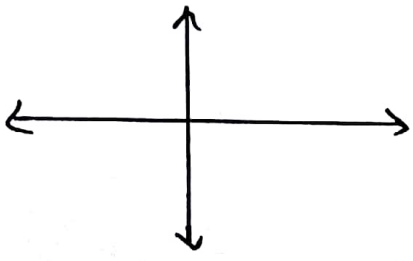
(C)



D:

R:

(11) GRAPH $f(x) = 3 \cdot 2^x + 2$



(12) SIMPLIFY:

(A) $(y^{10})(y^3)$

(B) $\left(\frac{14xyz}{244x^2y^2z^2}\right)^0$

(C) $\frac{6x^{-2}y^3z^2}{3x^3y^{-2}z^2}$

(D) $\sqrt{48}$

(E) $3\sqrt{45} + 4\sqrt{80} - 2\sqrt{125}$

(F) $\frac{6\sqrt{10}}{\sqrt{5}}$

(13) FIND THE 10TH TERM OF EACH SEQUENCE

(A) $2, 5, 8, \ldots$

(B) $7, -14, 28, -56, \ldots$

(C) $28, 30, 32, \ldots$