MATH 085 Sample 02 Exam 2

For each problem, show your work in the space provided.
Write your Final Answer (and the letter answer) on the Answer Sheet provided.
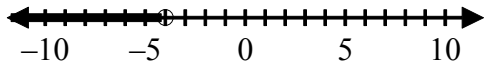
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1. Add: $3 + (-11)$ [A] –8   [B] 14   [C] –14   [D] 8

2. Simplify: $(-12)^2$ [A] 144   [B] $-\sqrt{12}$ [C] –144   [D] –24

3. Which inequality describes the graph?

     [A] $m < -4$ [B] $m > -4$ [C] $m \leq -4$ [D] $m \geq -4$

4. When the product of 7 and an unknown number is decreased by 13, the result is 11. Find the number.

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5. Solve: $-5.8x = 1.218$

6. Simplify: $(4x - 3y) - (7x + 2y)$

    [A] $-3x - y$ [B] $11x - y$ [C] $-3x - 5y$ [D] $11x - 5y$

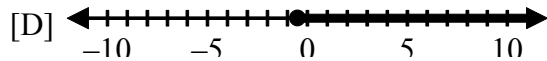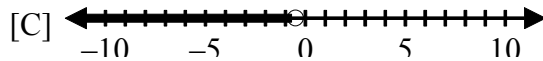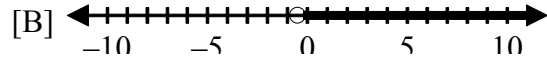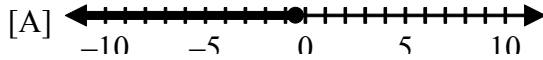7. Determine if $6x$ and $-3xy$ are like terms. Answer yes or no.

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8. Graph: $4x + 3 < 2(x + 1)$

[A] ![number line from −10 to 10, filled dot at 0 shaded left]
   −10   −5   0   5   10

[B] ![number line from −10 to 10, open dot at 5 shaded right]
   −10   −5   0   5   10

[C] ![number line from −10 to 10, open dot at 0 shaded left]
   −10   −5   0   5   10

[D] ![number line from −10 to 10, filled dot at 0 shaded right]
   −10   −5   0   5   10

9. Evaluate $\dfrac{y}{4x} - z$ for $x = 2$, $y = 32$, and $z = 1$.

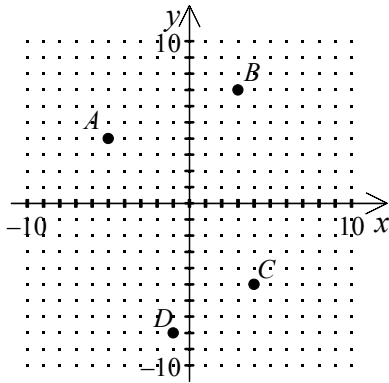10. Solve: $6x + 4 = x + 3$ [A] $-\dfrac{1}{5}$ [B] -5 [C] 5 [D] $\dfrac{1}{5}$

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11. Name the coordinates of the points *A*, *B*, *C,* and *D*.

12. The length of the hypotenuse in a right triangle is 13 centimeters. If the length of one leg is 12 centimeters, find the length of the other leg.

[A] 5 cm   [B] 1 cm   [C] 12 cm   [D] 25 cm
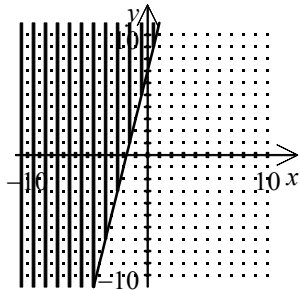
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13. Give the intercepts of $-9x + 3y = -6$.

   [A] x-intercept is $\left(0, \dfrac{2}{3}\right)$; y-intercept is $(-2, 0)$

   [B] x-intercept is $\left(\dfrac{2}{3}, 0\right)$; y-intercept is $(0, -2)$

   [C] x-intercept is $(0, -9)$; y-intercept is $(3, 0)$

   [D] x-intercept is $(3, 0)$; y-intercept is $(0, -9)$

14. Write the standard form of the equation of the line with slope 4 and y-intercept -1.

   [A] $4x + y - 1 = 0$ [B] $-4x - y + 1 = 0$ [C] $4x - y - 1 = 0$ [D] $-4x + y - 1 = 0$

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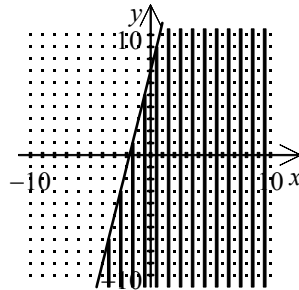
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15. Graph: $-y \geq 4x - 7$

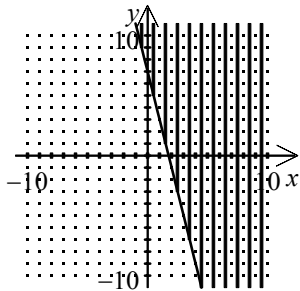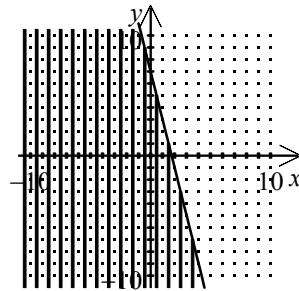[A]

[B]

[C]

[D]

16. Find the general form of the equation of the line that passes through the points (1, 7) and (2, 9).

[A] $2x + y = -5$ 　　　 [B] $2x - y = -5$ 　　　 [C] $x - 2y = -5$ 　　　 [D] $x + 2y = 5$

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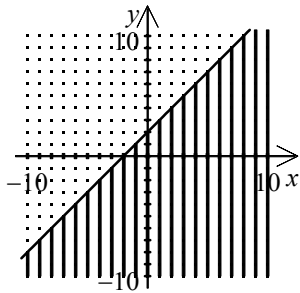
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Graph:

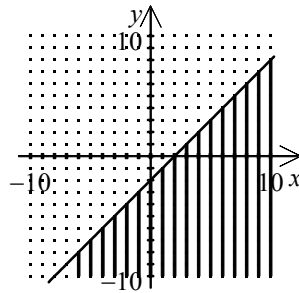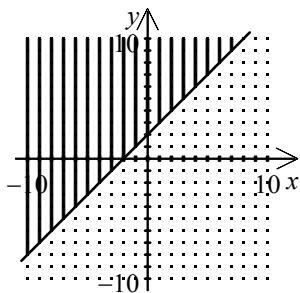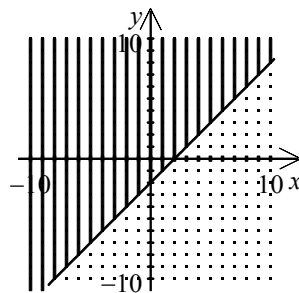17. $x - y = 3$

18. $y \le x + 2$

[A]

[B]

[C]

[D]
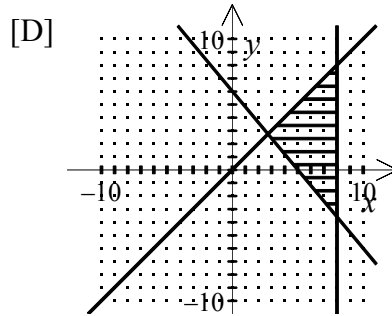
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19. Graph the solution set of the system of inequalities $6x + 5y \geq 30$, $x \geq y$, $x \leq 8$.

[A]

[B]

[C]

[D]

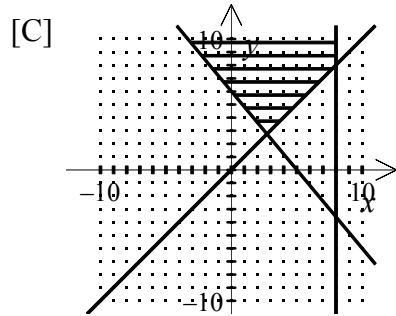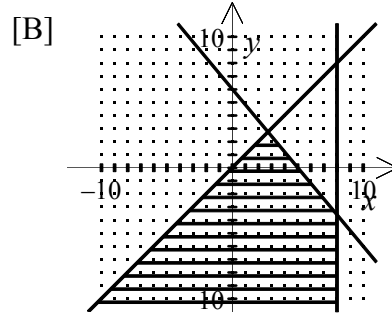**For each problem, show your work in the space provided.**
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20. Solve the system: $\dfrac{x}{3} - \dfrac{y}{2} = -\dfrac{7}{6}$

$\qquad\qquad\qquad\qquad \dfrac{3x}{5} - \dfrac{y}{2} = -\dfrac{17}{10}$

   [A] $\left(-1, \dfrac{5}{3}\right)$ [B] $(1, 3)$ [C] $(-2, 1)$ [D] $\left(\dfrac{7}{3}, 0\right)$

21. Solve the system for x: [A] $\dfrac{1}{3}$ [B] $-\dfrac{3}{5}$ [C] 3 [D] $\dfrac{7}{5}$

$\qquad x - y = -2$

$\qquad 4x + y = -1$

22. Solve: $2x + 4y = -8$

$\qquad\qquad 4x + y = 5$

   [A] inconsistent (no solution) [B] $(2, 3)$

   [C] $(2, -3)$ [D] dependent (many solutions)

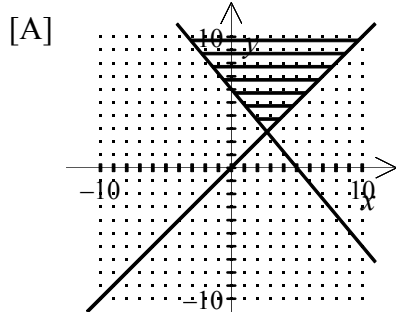**For each problem, show your work in the space provided.**
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23. Graph: $x + y = 1$

$\qquad\quad 2x - y = 8$

[A]

[B]

[C]

[D]

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24. Solve the system: $x - 4y = 2$
$$y = 4x + 7$$

[A] $(-2, -1)$ [B] inconsistent (no solutions)

[C] $(-2, 1)$ [D] dependent (many solutions)

25. Multiply: $(5x + 2y)(5x - 2y)$

[A] $25x^2 + 20xy + 4y^2$ [B] $-10x^2 - 20xy + 4y^2$

[C] $25x^2 - 4y^2$ [D] $-10x^2 + 4y^2$

26. Simplify the quotient: $-\dfrac{a^2 b^5 c^3}{abc}$

[A] $ab^4 c^2$ [B] $\dfrac{1}{ab^4 c^2}$ [C] $-ab^4 c^2$ [D] $-a^3 b^6 c^4$
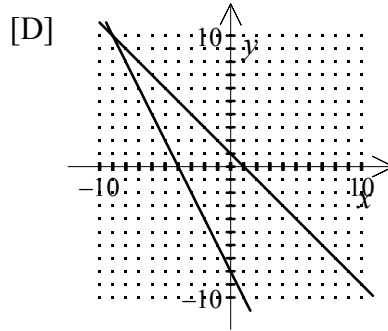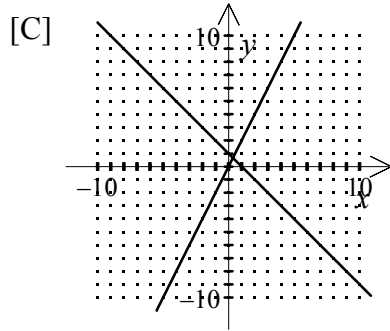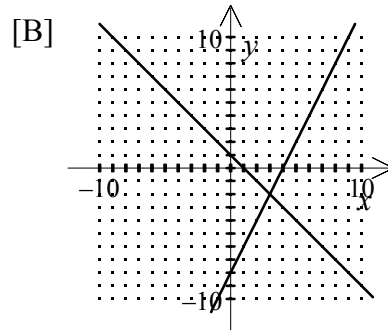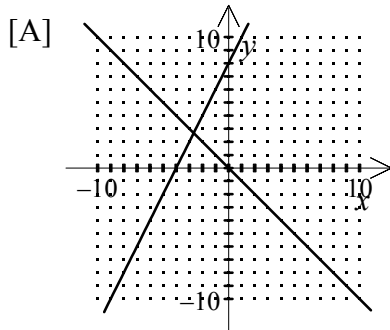
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Multiply:

27. $(x+5)(x^2+3x+2)$

[A] $x^3+8x^2+17x+10$ [B] $x^2+2x+10$

[C] $x^3+8x^2+15x+10$ [D] x^3+3x^2+10

28. $(4a-7)(5a+9)$

[A] $20a^2+a-63$ [B] $20a^2+a+64$ [C] $20a^2-2a+64$ [D] $20a^2+71a-63$

29. Classify as a monomial, binomial, or trinomial: $6x^2+x+3$

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30. Multiply: $(x-3)(x^2+2x+3)$

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[1] _____

[2] _____

[3] _____

[4] _____

[5] _____

[6] _____

[7] _____

[8] _____

[9] _____

[10] _____

[11] _____

[12] _____

[13] _____

[14] _____

[15] _____

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[16] _____

[17] _____

[18] _____

[19] _____

[20] _____

[21] _____

[22] _____

[23] _____
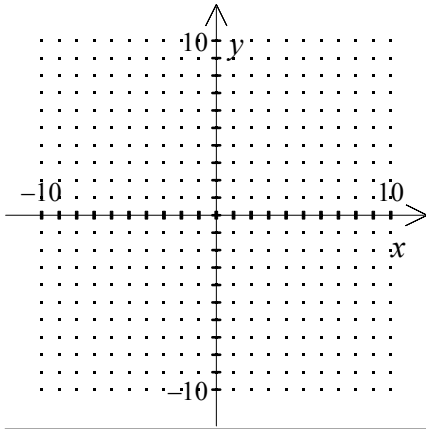
[24] _____

[25] _____

[26] _____

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[27] _____

[28] _____

[29] _____

[30] _____

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[1] [A]_____

[2] [A]_____

[3] [A]_____

[4] $3\dfrac{3}{7}$ _____

[5] –0.21 _____

[6] [C]_____

[7] no _____

[8] [C]_____

[9] 3 _____

[10] [A]_____

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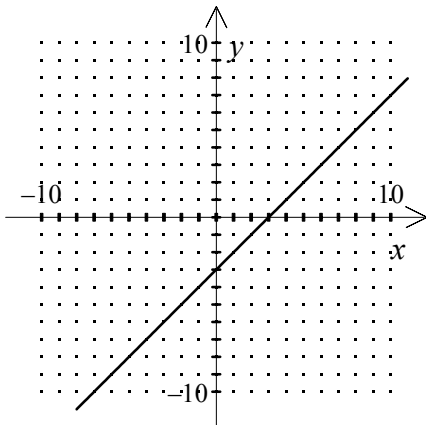[11] *A*(−5, 4), *B*(3, 7), *C*(4, −5), *D*(−1, −8)_____

[12] [A]_____

[13] [B]_____

[14] [C]_____

[15] [D]_____

[16] [B]_____

[17] _____

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[18] [A]____

[19] [D]____

[20] [C]____

[21] [B]____

[22] [C]____

[23] [B]____

[24] [A]____

[25] [C]____

[26] [C]____

[27] [A]____

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[28] [A]_____

[29] trinomial _____

[30] $x^3 - x^2 - 3x - 9$ _____