1. Evaluate $2y-3x$ for $x=-4$ and $y=5$.

a) -23 b) -2 c) 22 d) -45

2. Simplify: $\left|\frac{3}{4}-\frac{7}{4}\right|$.

a) -1 b) 1 c) $\frac{5}{4}$ d) $\frac{5}{2}$

3. Which of the numbers $-19, 0, 5, 9, -\frac{2}{3}, 6\frac{1}{8}$ are whole numbers?

a) -19 only b) 0, 5, 9 only

c) $-\frac{2}{3}$ and $6\frac{1}{8}$ only d) $-19, 0, 5, 9$ only

4. Simplify: $(12-8)\div(-2)$.

a) 2 b) -16 c) -4 d) -2

5. Divide: $\frac{7}{15}\div\left(-\frac{3}{5}\right)$.

a) $-\frac{7}{9}$ b) $-\frac{7}{25}$ c) $-\frac{2}{15}$ d) $\frac{2}{3}$

6. Multiply: $-12(3)(-4)(1)$.

a) -144 b) -12 c) 12 d) 144

7. Collect like terms: $5xy-6x^2+9xy-x^2$.

a) $14xy-7x^2$ b) $14xy-5x^2$ c) $16xy-7x^2$ d) $-4xy+5x^2$

8. Simplify: $-2\{x-[3(x-1)-4]+5\}$.

a) $-2x$ b) $-2x+6$ c) $2x-10$ d) $4x-24$

9. Simplify: $\left(3x^{-3}y^{-5}\right)^{-4}$.

a) $81x^{-7}y^{-9}$ b) $81x^{12}y^{20}$ c) $\dfrac{1}{81x^2y^9}$ d) $\dfrac{x^{12}y^{20}}{81}$

10. Solve: $8x-5=3x+6$. The solution is:

a) between -5 and -1 b) between -1 and 0
c) between 0 and 1 d) between 1 and 5

Question 2:(2 points)

Perform and simplify the following:

$$(2x-5y)(3xy-6x+4y)$$

Answer:

$$(2x-5y)(3xy-6x+4y) = 6x^2y-12x^2+8xy-15xy^2+30xy-20y^2$$

$$= 6x^2y-15xy^2-12x^2-20y^2+38xy$$

Question 3: (2 points)

Perform, simplify, and arrange the resulting polynomial in decreasing order:

$$(9x-11x^2+6x^3-1)-(-5x^3-2x+3x^4+3x^2).$$

Answer:

$$\begin{aligned}(9x-11x^2+6x^3-1)-(-5x^3-2x+3x^4+3x^2) &= 9x-11x^2+6x^3-1+5x^3+2x-3x^4-3x^2\\ &= -3x^4+(6x^3+5x^3)+(-11x^2-3x^2)+(9x+2x)-1\\ &= -3x^4+11x^3-14x^2+11x-1.\end{aligned}$$

Question 4: (2 points)

Solve the equation:

$$3(x-2)+5x=6x-4(x-1)$$

Answer:

$$\begin{aligned} 3(x-2)+5x &= 6x-4(x-1) \\ 3x-6+5x &= 6x-4x+4 \\ 8x-6 &= 2x+4 \\ 8x-2x &= 4+6 \\ 6x &= 10 \\ x &= \frac{10}{6} \\ x &= \frac{5}{3} \end{aligned}$$

The solution set is $\left\{\frac{5}{3}\right\}$.

Question 5: (2 points)

Solve the inequality:

$$2x-7 \le 3x+\frac{1}{2}.$$

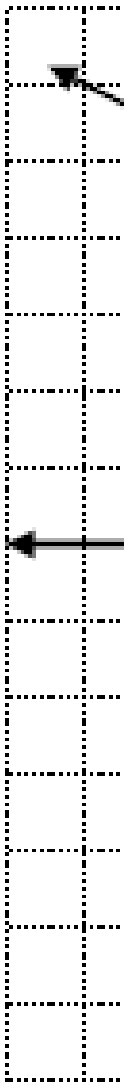
Answer:

$$\begin{aligned} 2x-7 &\le 3x+\frac{1}{2} \\ 2x-3x &\le \frac{1}{2}+7 \\ -x &\le \frac{1}{2}+\frac{14}{2} \\ -x &\le \frac{15}{2} \\ x &\ge -\frac{15}{2}. \end{aligned}$$

The solution set is $\left[-\frac{15}{2}, +\infty\right)$.

Question 6: (2 points)

Graph the line $y = -\frac{1}{2}x + 3$



Answer:

Choosing two points

$$y = -\frac{1}{2}x + 3$$

For $x = 2$, we have $y = 2$,

For $x = 0$, we have $y = 3$,

So, the line passes through the points $(2\ ,\ 2)$ and $(0\ ,\ 3)$.