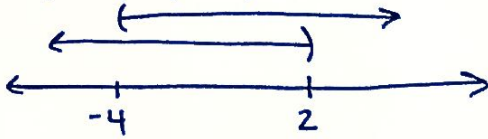


Section P.4: Factoring WS 5

Name KEY

Graph each set and write the solution in the opposite notation then it was given.

1.  $(-\infty, 2) \cap (-4, \infty)$



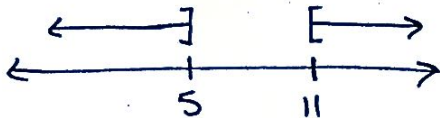
$\{x \mid -4 < x < 2\}$

2.  $\{x \mid 0 \leq x < 10\}$



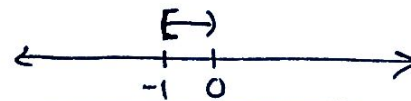
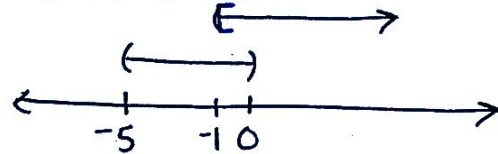
$[0, 10)$

3.  $\{x \mid x \leq 5\} \cup \{x \mid x \geq 11\}$



$(-\infty, 5] \cup [11, \infty)$

4.  $(-5, 0) \cap [-1, \infty)$



$\{x \mid -1 \leq x < 0\}$

Factor completely.

5.  $5x^2 - 7x - 6$   $\begin{matrix} -30 \\ \wedge \\ -10 \quad 3 \end{matrix}$

$\frac{5x}{-10} \quad \frac{5x}{3}$

$(x-2)(5x+3)$

6.  $x^2 - 7x + 6$

$(x-6)(x-1)$

7.  $2x^2 + 5xy + 3y^2$   $\begin{matrix} 6 \\ \wedge \\ 2 \quad 3 \end{matrix}$

$\frac{2x}{2} \quad \frac{2x}{3}$

$(x+y)(2x+3y)$

8.  $2x^4 + 5x^3 - 3x^2$

$x^2(2x^2 + 5x - 3)$   $\begin{matrix} -6 \\ \wedge \\ 6 \quad -1 \end{matrix}$

$\frac{2x}{6} \quad \frac{2x}{-1}$

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

9.  $25x^2 - 196$

$(5x+14)(5x-14)$

10.  $2x^2 + 9x + 63$   $\begin{matrix} 126 \\ \wedge \end{matrix}$

$9^2 - 4(2)(63)$

$-423$

prime

11.  $121x^2 - 169$

$$(11x+13)(11x-13)$$

12.  $125x^3 + y^3$

$$(5x+y)(25x^2 - 5xy + y^2)$$

13.  $6x^2 + 5x - 4$

$$\frac{3x}{84} \quad \frac{2x}{-91}$$

$$\begin{array}{r} -24 \\ 8 \end{array} \wedge -3$$

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

14.  $x^3 - 216$

$$(x-6)(x^2 + 6x + 36)$$

15.  $39x^3 + 169x^2$

$$13x^2(3x+13)$$

16.  $7x^2 + 11xy - 6y^2$

$$\frac{7x}{14} \quad \frac{7x}{-3}$$

$$\begin{array}{r} -42 \\ 14 \end{array} \wedge -3$$

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

17.  $343x^3 + y^3$

$$(7x+y)(49x^2 - 7xy + y^2)$$

18.  $64x^3 - 125$

$$(4x-5)(16x^2 + 20x + 25)$$

19.  $2x^2 - 5x - 7$

$$\begin{array}{r} -14 \\ -7 \end{array} \wedge 2$$

$$\frac{2x}{-7} \quad \frac{3x}{21}$$

$$(2x-7)(x+1)$$

20.  $16x^2 - 8x + 1$

$$\frac{4x}{-41} \quad \frac{4x}{-91}$$

$$\begin{array}{r} 16 \\ -4 \end{array} \wedge -4$$

$$(4x-1)^2$$