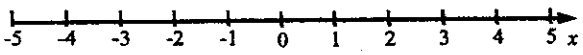
Activity 40

Legibly write your Student ID number and period number on every page. Do NOT write your name.

Student ID (######)	Date (MM/DD/YYYY)	Period (#)
000000	03/11/2024	0

Guided Learning

Use the horizontal number line to answer each question and solve each equation.



Which numbers are two spaces away from 0?	$\{-2, 2\}$
Which numbers are four spaces away from 0?	$\{-4, 4\}$
Which numbers are three spaces away from 0?	$\{-3, 3\}$

Solve for x.

1 $\lvert x\rvert = 5$ $x = \{-5, 5\}$	**2** $\lvert x\rvert = 7$ $x = \{-7, 7\}$
3 $\lvert x\rvert = 1$ $x = \{-1, 1\}$	**4** $\lvert x\rvert = 9$ $x = \{-9, 9\}$

$$\sqrt{x^2} = |x|$$

Solve for x.

5 $\sqrt{x^2} = \sqrt{9}$ $\lvert x\rvert = 3$ $x = \{-3, 3\}$	**6** $\sqrt{x^2} = \sqrt{64}$ $\lvert x\rvert = 8$ $x = \{-8, 8\}$
7 $x^2 + 7 = 23$ $-7 \quad -7$ $\sqrt{x^2} = \sqrt{16}$ $\lvert x\rvert = 4$ $x = \{-4, 4\}$	**8** $x^2 + 10 = 35$ $-10 \quad -10$ $\sqrt{x^2} = \sqrt{25}$ $\lvert x\rvert = 5$ $x = \{-5, 5\}$
9 $12 + x^2 = 112$ $-12 \quad -12$ $\sqrt{x^2} = \sqrt{100}$ $\lvert x\rvert = 10$ $x = \{-10, 10\}$	**10** $3 + x^2 = 84$ $-3 \quad -3$ $\sqrt{x^2} = \sqrt{81}$ $\lvert x\rvert = 9$ $x = \{-9, 9\}$
11 $9 + 16 = x^2$ $\sqrt{25} = \sqrt{x^2}$ $5 = \lvert x\rvert$ $x = \{-5, 5\}$	**12** $144 + 25 = x^2$ $\sqrt{169} = \sqrt{x^2}$ $13 = \lvert x\rvert$ $x = \{-13, 13\}$

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Solve for x.

13 $x^2 + 16 = 25$

$-16 \quad -16$

$\sqrt{x^2} = \sqrt{9}$

$|x| = 3$

$x = \{-3, 3\}$

14 $x^2 + 144 = 169$

$-144 \quad -144$

$\sqrt{x^2} = \sqrt{25}$

$|x| = 5$

$x = \{-5, 5\}$

15 $x^2 + 576 = 625$

$-576 \quad -576$

$\sqrt{x^2} = \sqrt{49}$

$|x| = 7$

$x = \{-7, 7\}$

16 $9 + x^2 = 25$

$-9 \quad -9$

$\sqrt{x^2} = \sqrt{16}$

$|x| = 4$

$x = \{-4, 4\}$

17 $25 + x^2 = 169$

$-25 \quad -25$

$\sqrt{x^2} = \sqrt{144}$

$|x| = 12$

$x = \{-12, 12\}$

18 $49 + x^2 = 625$

$-49 \quad -49$

$\sqrt{x^2} = \sqrt{576}$

$|x| = 24$

$x = \{-24, 24\}$

19 $9 + 16 = x^2$

$\sqrt{25} = \sqrt{x^2}$

$5 = |x|$

$x = \{-5, 5\}$

20 $25 + 144 = x^2$

$\sqrt{169} = \sqrt{x^2}$

$13 = |x|$

$x = \{-13, 13\}$

21 $49 + 576 = x^2$

$\sqrt{625} = \sqrt{x^2}$

$25 = |x|$

$x = \{-25, 25\}$

22 $x^2 + 225 = 289$

$-225 \quad -225$

$\sqrt{x^2} = \sqrt{64}$

$|x| = 8$

$x = \{-8, 8\}$

23 $x^2 + 1600 = 1681$

$-1600 \quad -1600$

$\sqrt{x^2} = \sqrt{81}$

$|x| = 9$

$x = \{-9, 9\}$

24 $x^2 + 3600 = 3721$

$-3600 \quad -3600$

$\sqrt{x^2} = \sqrt{121}$

$|x| = 11$

$x = \{-11, 11\}$

25 $64 + x^2 = 289$

$-64 \quad -64$

$\sqrt{x^2} = \sqrt{225}$

$|x| = 15$

$x = \{-15, 15\}$

26 $81 + x^2 = 1681$

$-81 \quad -81$

$\sqrt{x^2} = \sqrt{1600}$

$|x| = 40$

$x = \{-40, 40\}$

27 $121 + x^2 = 3721$

$-121 \quad -121$

$\sqrt{x^2} = \sqrt{3600}$

$|x| = 60$

$x = \{-60, 60\}$

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28 $64 + 225 = x^2$

$\sqrt{289} = \sqrt{x^2}$

$17 = |x|$

$x = \{-17, 17\}$

29 $81 + 1600 = x^2$

$\sqrt{1681} = \sqrt{x^2}$

$41 = |x|$

$x = \{-41, 41\}$

30 $121 + 3600 = x^2$

$\sqrt{3721} = \sqrt{x^2}$

$61 = |x|$

$x = \{-61, 61\}$

31 $x^2 + 1225 = 1369$

$-1225 \quad -1225$

$\sqrt{x^2} = \sqrt{144}$

$|x| = 12$

$x = \{-12, 12\}$

32 $x^2 + 7056 = 7225$

$-7056 \quad -7056$

$\sqrt{x^2} = \sqrt{169}$

$|x| = 13$

$x = \{-13, 13\}$

33 $x^2 + 3969 = 4225$

$-3969 \quad -3969$

$\sqrt{x^2} = \sqrt{256}$

$|x| = 16$

$x = \{-16, 16\}$

34 $144 + x^2 = 1369$

$-144 \quad -144$

$\sqrt{x^2} = \sqrt{1225}$

$|x| = 35$

$x = \{-35, 35\}$

35 $169 + x^2 = 7225$

$-169 \quad -169$

$\sqrt{x^2} = \sqrt{7056}$

$|x| = 84$

$x = \{-84, 84\}$

36 $256 + x^2 = 4225$

$-256 \quad -256$

$\sqrt{x^2} = \sqrt{3969}$

$|x| = 63$

$x = \{-63, 63\}$

37 $144 + 1225 = x^2$

$\sqrt{1369} = \sqrt{x^2}$

$37 = |x|$

$x = \{-37, 37\}$

38 $169 + 7056 = x^2$

$\sqrt{7225} = \sqrt{x^2}$

$85 = |x|$

$x = \{-85, 85\}$

39 $256 + 3969 = x^2$

$\sqrt{4225} = \sqrt{x^2}$

$65 = |x|$

$x = \{-65, 65\}$

THIS IS THE END OF THE ACTIVITY