

**42.** What are the real solutions to the equation  $|x|^2 + 2|x| - 3 = 0$  ?

**F.**  $\pm 1$

**G.**  $\pm 3$

**H.** 1 and 3

**J.** -1 and -3

**K.**  $\pm 1$  and  $\pm 3$

**75.** What is the sum of the solutions to the equation  $2x^2 = 2x + 12$ ?

a. 4

b. 7

c. 1

d. 9

e. -1

59. In the equation  $x^2 + mx + n = 0$ ,  $m$  and  $n$  are integers. The *only* possible value for  $x$  is  $-3$ . What is the value of  $m$  ?
- A. 3
  - B.  $-3$
  - C. 6
  - D.  $-6$
  - E. 9

**64.** If  $x^3 = -50$ , the value of  $x$  is between which two integers?

f. 3 and 4

g. 7 and 8

h. -3 and -4

i. -2 and -3

j. -7 and -8

**28.** If  $2x^2 + 6x = 36$ , what are the possible values of  $x$  ?

**F.** -12 and 3

**G.** -6 and 3

**H.** -3 and 6

**J.** -3 and 12

**K.** 12 and 15

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21. What values of  $x$  are solutions for  $x^2 + 2x = 8$  ?

- A.  $-4$  and  $2$
- B.  $-2$  and  $0$
- C.  $-2$  and  $4$
- D.  $0$  and  $2$
- E.  $6$  and  $8$

20. Which of the following is NOT a solution of  $(x-3)(x-1)(x+3)(x+7) = 0$ ?

- K  
→
- F. -7
  - G. -3
  - H. 1
  - J. 3
  - K. 7

$x \Rightarrow 3, 1, -3, -7$   
 $x$  can be these values

Zero Product Property  
If  $a \cdot b = 0$ , then either  $a$  or  $b$  must be 0 or both.

46. For what nonzero whole number  $k$  does the quadratic equation  $x^2 + k^2x + 2k = 0$  have exactly 1 real solution for  $x$ ?

- F. -4
- G. -2
- H. 2
- J. 4
- K. 8

X →

H

ACT-57B

$x^2 + (2)^2x + 2(2)$   
 $x^2$

Quadratic Equations  
If you can't find away to quickly

ANSWER, plug in answers and see

what works, only one that works is H



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4. If  $7 + 3x = 22$ , then  $2x = ?$

F. 5

G. 10

H. 12

J. 14

K.  $\frac{58}{3}$

**11.** If  $9m - 3 = -318$ , then  $14m = ?$

a.  $-28$

b.  $-504$

c.  $-329$

d.  $-584$

e.  $-490$

**75.** What is the sum of the solutions to the equation  $2x^2 = 2x + 12$ ?

a. 4

b. 7

c. 1

d. 9

e. -1

22. Which equation below has the solutions  $x = p$  and  $x = q$ ?

**DO YOUR FIGURING HERE.**

- F — F.  $(x-p)(x-q) = 0$   
G.  $(x-p)(x-q) = 1$   
H.  $(x+p)(x+q) = 0$   
J.  $x+p+q = 0$   
K.  $x+pq = 0$

Luckily, the first one is true  
 $(0-0)(0-0) = 0$  kind of a silly  
question.