POWER BASICS PLUS

Algebra

Test Pack

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UNIT 2 TEST • SOLVING EQUATIONS AND INEQUALITIES

Circle the correct answer for each of the following questions. Show your work, if necessary.

1. Solve the following equation.

$\frac{r}{12} + 7 = 73$

$r = ?$

a. $5\frac{1}{2}$

b. $6\frac{2}{3}$

c. 792

d. 960

---

2. Solve the following equation.

$12r + 17 = 113$

$r = ?$

a. 2

b. 8

c. 1152

d. 1560

---

3. Solve the following equation.

$\frac{2}{3}n + 2\frac{2}{3}n + 4 = 25 + \frac{1}{3}n$

$n = ?$

a. 5.7

b. 7

c. 63

d. 87

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4. Solve the following equation.

$\frac{3}{4}w + 4\frac{3}{16}w + 9 = 24 - \frac{1}{16}w$

$w = ?$

a. 3

b. 6.6

c. 75

d. 165

---

5. $s = 5$ is the solution to which of the following equations?

a. $3\frac{3}{4}s + 3 = 5 - \frac{1}{4}s$

b. $\frac{2}{3}s - 3 = 5 - \frac{1}{3}s$

c. $7\frac{1}{2}s - 9 = 36 - \frac{1}{2}s$

d. $7\frac{1}{2}s + 9 = 36 + \frac{1}{2}s$

---

6. $s = 12$ is the solution to which of the following equations?

a. $3\frac{3}{4}s + 3 = 15 - \frac{1}{4}s$

b. $\frac{2}{3}s - 3 = 15 - \frac{1}{3}s$

c. $1\frac{1}{2}s - 9 = 45 + 1\frac{1}{2}s$

d. $2\frac{1}{2}s + 9 = 45 - \frac{1}{2}s$

---

7. Circle the letter of the inequality symbol that would make the following statement true.

$28 - 6$ _____ $2(6 + 4)$

a. $>$

b. $\leq$

c. $=$

d. $<$

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8. Circle the letter of the inequality symbol that would make the following statement true.

$$\frac{13}{14} \quad \_\_\_\_ \quad \frac{6}{7}$$

a. $<$

b. $>$

c. $=$

d. $\leq$

---

9. Beth is 7 years older than Darnell. Darnell is 2 times as old as Juan. Which formula represents Beth's age in relation to Juan?

a. $B = 2J - 7$

b. $B = 2J + 7$

c. $B = 2J + 14$

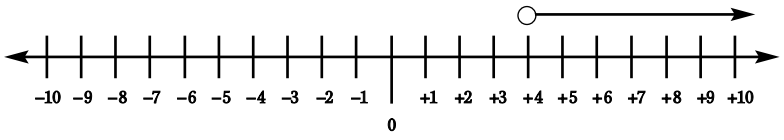
d. $B = J - 2$

---

10. Which number line below shows the solution to the following inequality?

$$-\frac{1}{2}x + 12 > 28 + 3\frac{1}{2}x$$

a.



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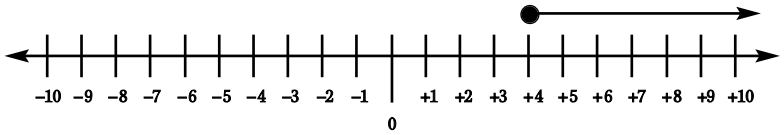
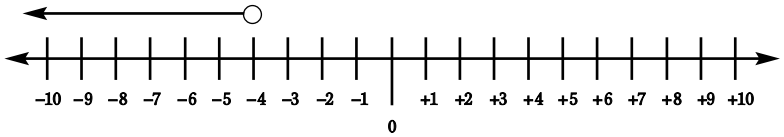


c.



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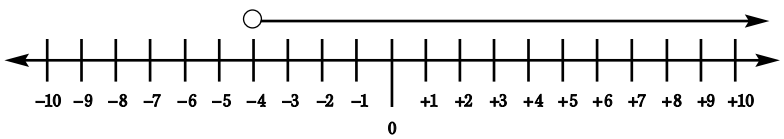

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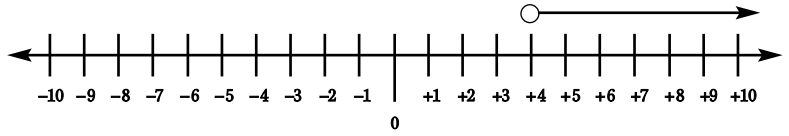
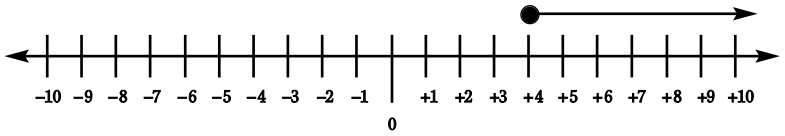
11. Which number line below shows the solution to the following inequality?

$x - 16 < 8 + 7x$

a.



b.



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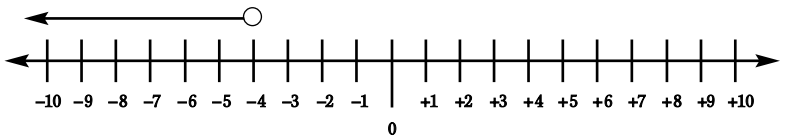
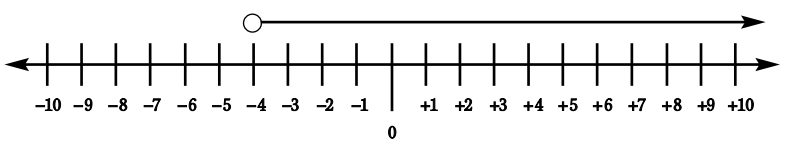


d.



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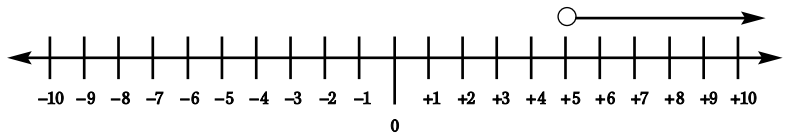
12. Which number line below shows the solution to the following inequality?

$-2y - 3 < 22 + 3y$

a.



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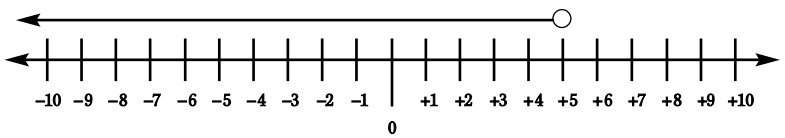
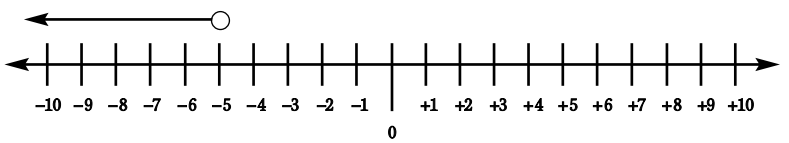
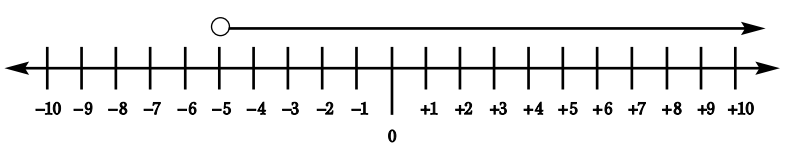


c.



d.



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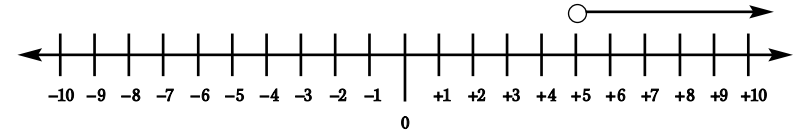
13. Which number line below shows the solution to the following inequality?

$-2y - 6 + y < 24 - 7y$

a.



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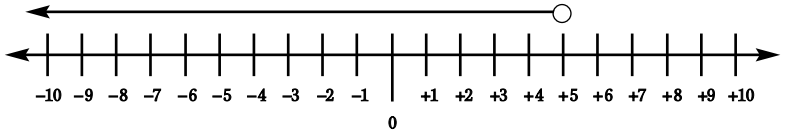
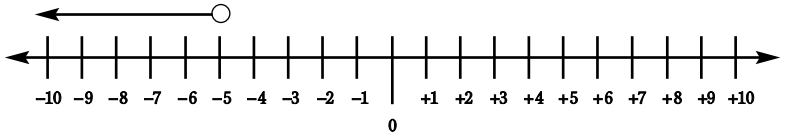
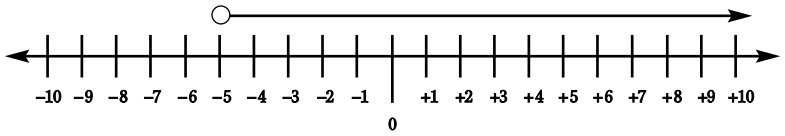


c.



d.



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14. What is the solution to the following inequality?

$-3x + 5 > -1$

a. $x < 2$

b. $x > 2$

c. $x > 5\frac{1}{3}$

d. $x < 5\frac{1}{3}$

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15. What is the solution to the following inequality?

$-3x + 5 < 11$

a. $x < -2$

b. $x > -2$

c. $x > 5\frac{1}{3}$

d. $x < 5\frac{1}{3}$

---

16. Which number below would NOT be a possible solution to the following inequality?

$8t - 12 > 16t + 4$

$t = ?$

a. -3

b. -4

c. -2

d. -12

---

17. Which number would NOT be a possible solution to the following inequality?

$7t - 12 > 16$

$t = ?$

a. 4

b. 12

c. 28

d. 36

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18. Which number below would be a possible solution to the following inequality?

$-10m - 8 \geq -12m - 10$

$m = ?$

a. $-\frac{1}{2}$

b. $-1\frac{1}{2}$

c. -2

d. -12

---

19. Which number would NOT be a possible solution to the following inequality?

$4m - 8 \geq 12m - 10$

$m = ?$

a. -20

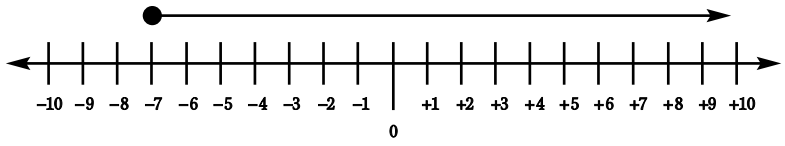
b. $-\frac{1}{2}$

c. 0

d. 2

---

20. Look at the number line below. Which of the following inequalities correctly describes the number line?



a. $d > 7$

b. $d \geq -7$

c. $d \geq 7$

d. $d < -7$

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