Algebra Review #39 *SHOW HOW YOU SOLVED EACH PROBLEM*

1. Solve

$$(9x^2 - 10x + 1) - (7x - 4x^2 + 1)$$

2.

What is the value of this expression when $x = \dfrac{2}{3}$?

$$x^2 + 3x - 2$$

A $\dfrac{16}{3}$

B $\dfrac{40}{9}$

C $\dfrac{4}{3}$

D $\dfrac{4}{9}$

3.

Which polynomial is equivalent to $(18n^2 - 9n + 1) \div (3n - 1)$?

A $6n - 1$

B $6n + 1$

C $6n^2 - 3$

D $18n^2 - 3$

4. **What is the value of this expression when $a = 64$ and $b = {}^-5$?**

$$^-2\sqrt[3]{a} + b^2$$

5.

Which binomial is a factor of $c^2 - 12c + 32$?

A $c - 12$

B $c - 8$

C $c - 2$

D $c - 1$

6.

Pierre solved an inequality as shown.

Step 1: $^-8 \geq n + 3$
Step 2: $^-8 + (^-3) \geq n + 3 + (^-3)$
Step 3: $^-11 \geq n + 0$
Step 4: $^-11 \geq n$

What property justifies the work between Step 3 and Step 4 ?

A Inverse property of addition

B Identity property of addition

C Addition property of inequality

D Commutative property of addition

7.

What is $\sqrt{18}$ written in simplest radical form?

A $2\sqrt{3}$

B $3\sqrt{2}$

C $3\sqrt{6}$

D $6\sqrt{3}$

8. Solve for x:

$$^-2x + 6 < x - 6$$

9. **Assume the denominator does not equal zero?**

Which expression is equivalent to $\dfrac{18c^8d^9}{9c^3d^6}$?

A $2c^5d^3$

B $9c^5d^3$

C $2c^{11}d^{15}$

D $9c^{11}d^{15}$

10. A total of 243 adults and children are at a movie theater. There are 109 more adults than children in the theater. If a represents the number of adults and b represents the number of children, which system of equations could be used to find the number of adults and the number of children in the theater?

A $\begin{cases} a+b=243 \\ a=109b \end{cases}$

B $\begin{cases} a+b=243 \\ b=109a \end{cases}$

C $\begin{cases} a+b=243 \\ a=b+109 \end{cases}$

D $\begin{cases} a+b=243 \\ b=a+109 \end{cases}$