Algebra I — Released Test Questions

1 **Is the equation $3(2x-4)=-18$ equivalent to $6x-12=-18$?**

A Yes, the equations are equivalent by the Associative Property of Multiplication.

B Yes, the equations are equivalent by the Commutative Property of Multiplication.

C Yes, the equations are equivalent by the Distributive Property of Multiplication over Addition.

D No, the equations are not equivalent.

CSA10108

2 $$\sqrt{16}+\sqrt[3]{8}=$$

A 4

B 6

C 9

D 10

CSA00471

3 **Which expression is equivalent to x^6x^2?**

A x^4x^3

B x^5x^3

C x^7x^3

D x^9x^3

CSA20167

4 **Which number does *not* have a reciprocal?**

A -1

B 0

C $\frac{1}{1000}$

D 3

CSA10152

5 **What is the multiplicative inverse of $\frac{1}{2}$?**

A -2

B $-\frac{1}{2}$

C $\frac{1}{2}$

D 2

CSA10153

6 **What is the solution for this equation?**

$$|2x-3|=5$$

A $x=-4$ or $x=4$

B $x=-4$ or $x=3$

C $x=-1$ or $x=4$

D $x=-1$ or $x=3$

CSA00264

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7 **What is the solution set of the inequality $5-|x+4|\leq -3$?**

A $-2\leq x\leq 6$

B $x\leq -2$ or $x\geq 6$

C $-12\leq x\leq 4$

D $x\leq -12$ or $x\geq 4$

CSA10036

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8 **Which equation is equivalent to $5x-2(7x+1)=14x$?**

A $-9x-2=14x$

B $-9x+1=14x$

C $-9x+2=14x$

D $12x-1=14x$

CSA00206

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9 **Which equation is equivalent to $4(2-5x)=6-3(1-3x)$?**

A $8x=5$

B $8x=17$

C $29x=5$

D $29x=17$

CSA00059

10 **The total cost (c) in dollars of renting a sailboat for n days is given by the equation**

$$c=120+60n.$$

If the total cost was \$360, for how many days was the sailboat rented?

A 2

B 4

C 6

D 8

CSA00485

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11 **Solve:** $3(x+5)=2x+35$

Step 1: $3x+15=2x+35$
Step 2: $5x+15=35$
Step 3: $5x=20$
Step 4: $x=4$

Which is the first *incorrect* step in the solution shown above?

A Step 1

B Step 2

C Step 3

D Step 4

CSA00332

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12 **A 120-foot-long rope is cut into 3 pieces. The first piece of rope is twice as long as the second piece of rope. The third piece of rope is three times as long as the second piece of rope. What is the length of the longest piece of rope?**

A 20 feet

B 40 feet

C 60 feet

D 80 feet

CSA10052

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13 **The cost to rent a construction crane is $750 per day plus $250 per hour of use. What is the maximum number of hours the crane can be used each day if the rental cost is not to exceed $2500 per day?**

A 2.5

B 3.7

C 7.0

D 13.0

CSA10057

14 **What is the solution to the inequality $x-5>14$?**

A $x>9$

B $x>19$

C $x<9$

D $x<19$

CSA00487

15 **The lengths of the sides of a triangle are y, $y+1$, and 7 centimeters. If the perimeter is 56 centimeters, what is the value of y?**

A 24

B 25

C 31

D 32

CSA10046

16 **Which number serves as a counterexample to the statement below?**

All positive integers are divisible by 2 or 3.

A 100

B 57

C 30

D 25

CSG10197

17 **What is the conclusion of the statement in the box below?**

If $x^2=4$, then $x=-2$ or $x=2$.

A $x^2=4$

B $x=-2$

C $x=2$

D $x=-2$ or $x=2$

CSA30045

18 **Which of the following is a valid conclusion to the statement "If a student is a high school band member, then the student is a good musician"?**

A All good musicians are high school band members.

B A student is a high school band member.

C All students are good musicians.

D All high school band members are good musicians.

CSA30095

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