Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Hr:\_\_\_\_\_ 6.1 C Algebraic and Linear Proofs

Standard: Students will be able to prove algebraic calculations

1. Order the statements correctly. Then choose the reasons for each statement from the choices below.

|  |  |
| --- | --- |
| Given:  Prove:  Statements: | Reasons (Justification): |
| 1)  2)  3)  4)  5) | a)  b)  c)  d)  e) |
| Statements: | Reasons:   * Subtraction Property of Equality * Given * Addition Property of Equality * Subtraction Property of Equality * Division Property of Equality * Substitution Property * Symmetric Property * Reflexive Property |

|  |  |
| --- | --- |
| 1. Write a complete proof.   Given:  Prove:  Statements: | Reasons (Justification): |
|  |  |

(Hint: Work out the problem first, use the steps as statements)

Standard: Students will be able to prove statements about angles.

|  |  |
| --- | --- |
| 1. Fill in the blanks on the following proof.   Given:  Prove:  Statements: | Reasons: |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. Vertical angles are 3. Transitive Property of Congruence 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. Write a complete proof using the information given.

Given:

4

2

Prove:

8

6

Statements: Reasons:

|  |  |
| --- | --- |
|  |  |

Standard: Students will be able to prove statements about lines (segments)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. Complete the proof by filling in the spaces below.   Given: JK = 48  L  x + 3  4x  J  K  Prove: x = 9   |  |  | | --- | --- | | Statements | Reasons | | 1)  2) JL + LK = JK  3)  4) 5x + 3 = 48  5)  6) x = 9 | a) Given  b)  c) Substitution Property  d) Distributive Property  e)  f) | |

|  |  |
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| 1. Use the statements and reasons given at the bottom to write a complete proof of the following:   3x + 8 5x  Given:  Prove:  Statements: Reasons: | |
| Statements: | Reasons:   * Congruent segments have equal legth * Subtraction Property of Equality * Given * Definition of midpoint * Division Property of Equality * Substitution Property |