

Name _____

Date _____

True and False Number Sentences

Substitute the value for the variable and state in a complete sentence whether the resulting number sentence is true or false. If true, find a value that would result in a false number sentence. If false, find a value that would result in a true number sentence.

1. $15a \geq 75$. Substitute 5 for a .

2. $23 + b = 30$. Substitute 10 for b .

3. $20 > 86 - h$. Substitute 46 for h .

4. $32 \geq 8m$. Substitute 5 for m .

Substitute the value into the variable, and state (in a complete sentence) whether the resulting number sentence is true or false. If true, find a value that would result in a false number sentence. If false, find a value that would result in a true number sentence.

1. $3\frac{5}{6} = 1\frac{2}{3} + h$. Substitute $2\frac{1}{6}$ for h .

2. $39 > 156g$. Substitute $\frac{1}{4}$ for g .

3. $\frac{f}{4} \leq 3$. Substitute 12 for f .

4. $121 - 98 \geq r$. Substitute 23 for r .

5. $\frac{54}{q} = 6$. Substitute 10 for q .

Create a number sentence using the given variable and symbol. The number sentence you write must be true for the given value of the variable.

6. Variable: d Symbol: \geq The sentence is true when 5 is substituted for d .

7. Variable: y Symbol: \neq The sentence is true when 10 is substituted for y .

8. Variable: k Symbol: $<$ The sentence is true when 8 is substituted for k .

9. Variable: a Symbol: \leq The sentence is true when 9 is substituted for a .

Substitute the value for the variable and state in a complete sentence whether the resulting number sentence is true or false. If true, find a value that would result in a false number sentence. If false, find a value that would result in a true number sentence.

1. $15a \geq 75$. Substitute 5 for a .

When 5 is substituted in for a , the number sentence is true. Answers will vary, but any value for a less than 5 will result in a false number sentence.

2. $23 + b = 30$. Substitute 10 for b .

When 10 is substituted in for b , the number sentence is false. The only value for b that will result in a true number sentence is 7.

3. $20 > 86 - h$. Substitute 46 for h .

When 46 is substituted in for h , the number sentence will be false. Answers will vary, but any value for h greater than 66 will result in a true number sentence.

4. $32 \geq 8m$. Substitute 5 for m .

When 5 is substituted in for m , the number sentence is false. Answers will vary, but the value of 4 and any value less than 4 for m will result in a true number sentence.

Substitute the value for the variable, and state (in a complete sentence) whether the resulting number sentence is true or false. If true, find a value that would result in a false number sentence. If false, find a value that would result in a true number sentence.

1. $3\frac{5}{6} = 1\frac{2}{3} + h$. Substitute $2\frac{1}{6}$ for h .

When $2\frac{1}{6}$ is substituted in for h , the number sentence is true. Answers will vary, but any value for h other than $2\frac{1}{6}$ will result in a false number sentence.

2. $39 > 156g$. Substitute $\frac{1}{4}$ for g .

When $\frac{1}{4}$ is substituted in for g , the number sentence is false. Answers will vary, but any value for g less than $\frac{1}{4}$ will result in a true number sentence.

3. $\frac{f}{4} \leq 3$. Substitute 12 for f .

When 12 is substituted in for f , the number sentence is true. Answers will vary, but any value for f greater than 12 will result in a false number sentence.

4. $121 - 98 \geq r$. Substitute 23 for r .

When 23 is substituted in for r , the number sentence is true. Answers will vary, but any value for r greater than 23 will result in a false number sentence.

5. $\frac{54}{q} = 6$. Substitute 10 for q .

When 10 is substituted in for q , the number sentence is false. The number 9 is the only value for q that will result in a true number sentence.

Create a number sentence using the given variable and symbol. The number sentence you write must be true for the given value of the variable.

6. Variable: d Symbol: \geq The sentence is true when 5 is substituted for d .

7. Variable: y Symbol: \neq The sentence is true when 10 is substituted for y .

8. Variable: k Symbol: $<$ The sentence is true when 8 is substituted for k .

9. Variable: a Symbol: \leq The sentence is true when 9 is substituted for a .

Answers will vary for Problems 6–9.