

Math Sheet

Name _____ Score _____ / 10 Teacher _____ Date _____

Determine Truth Values

Use the stated facts to decide whether each proposition is true or false.

T = True; F = False

1. not ((if $3 < 8$, then 10 is 12))

2. Given: p : $2 > 6$; q : 14 is even; r : $3 < 8$

$$((p \vee q) \rightarrow r)$$

3. ($11 > 5$ and (17 is odd or 10 is 12))

4. Given: p : 25 is divisible by 4; q : 42 is divisible by 7

$$(p \vee q)$$

5. not (($3 < 8$ and 14 is even))

6. Given: p : 10 is 12; q : $11 > 5$

$$(p \wedge q)$$

7. not ((4 is 9 or 12 is odd))

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T = True; F = False

8. Given: p: 42 is divisible by 7; q: $11 > 5$

$(p \rightarrow q)$

9. (if 10 is 12, then (14 is even and 42 is divisible by 7))

10. Given: p: 24 is divisible by 6; q: 42 is divisible by 7

$\neg((p \rightarrow q))$

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Determine Truth Values

Answer key

Use the stated facts to decide whether each proposition is true or false.

T = True; F = False

1. not ((if $3 < 8$, then 10 is 12))

p=T, q=F; Answer: T

2. Given: p: $2 > 6$; q: 14 is even; r: $3 < 8$

$((p \vee q) \rightarrow r)$

p=F, q=T, r=T; Answer: T

3. ($11 > 5$ and (17 is odd or 10 is 12))

p=T, q=T, r=F; Answer: T

4. Given: p: 25 is divisible by 4; q: 42 is divisible by 7

$(p \vee q)$

p=F, q=T; Answer: T

5. not (($3 < 8$ and 14 is even))

p=T, q=T; Answer: F

6. Given: p: 10 is 12; q: $11 > 5$

$(p \wedge q)$

p=F, q=T; Answer: F

7. not ((4 is 9 or 12 is odd))

p=F, q=F; Answer: T

8. Given: p: 42 is divisible by 7; q: $11 > 5$

$(p \rightarrow q)$

p=T, q=T; Answer: T

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Determine Truth Values

Answer key

Use the stated facts to decide whether each proposition is true or false.

T = True; F = False

9. (if 10 is 12, then (14 is even and 42 is divisible by 7))

p=F, q=T, r=T; Answer: T

10. Given: p: 24 is divisible by 6; q: 42 is divisible by 7

$\neg((p \rightarrow q))$

p=T, q=T; Answer: F