Review Questions: Equations, Formulae and Inequations

|  |
| --- |
| 1. When we solve an equation, we are trying to find the numerical value of the \_\_\_\_\_\_ that makes the sentence true. |
| |  |  | | --- | --- | |  | formula | |  | pronumeral | |  | equation | |  | graph | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Match each equation to its solution.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *Using the pull-down menus, match each item in the left column to the corresponding item in the right column.* | | | | | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | |  |  | | --- | --- | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | A | *x* = 2 | |  | | | B | *x* = 3 | |  | | | C | *x* = 12 | |  | | | D | *x* = 18 | |  | | |  | | **3.1***x* + 8 = 10 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **3.2**16 − *x* = 4 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **3.3***x*⁄3 = 6 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **3.4**7*x* = 21 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Match each operation in the left hand column with its inverse in the right hand column.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *Using the pull-down menus, match each item in the left column to the corresponding item in the right column.* | | | | | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | |  |  | | --- | --- | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | A | adding 6 | |  | | | B | dividing by 6 | |  | | | C | subtracting 6 | |  | | | D | multiplying by 6 | |  | | |  | | **5.1**adding 6 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **5.2**multiplying by 6 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **5.3**subtracting 6 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **5.4**dividing by 6 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | |

|  |
| --- |
| 1. What order of inverse operations must be performed to get *x* in the equation ? |
| |  |  | | --- | --- | |  | divide by 6, divide by 5, subtract 3 and multiply by (−2) | |  | multiply by 5, divide by 6, subtract 3 and divide by (−2) | |  | divide by 5, multiply by 6, add 3 and multiply by (−2) | |  | divide by 6, subtract 3, divide by (−2) and multiply be 5 | |

|  |
| --- |
| 1. The solution to the equation 8 + 4*q* = 16, is *q* = . |

|  |
| --- |
| 1. Is *x* = 3 a solution to 8*x* = 24 − 4*x*? |
| |  |  | | --- | --- | |  | yes | |  | no | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Match the equation in the left column with its solution on the right.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *Using the pull-down menus, match each item in the left column to the corresponding item in the right column.* | | | | | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | |  |  | | --- | --- | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | A | *x* = 3 | |  | | | B | *x* = 2 | |  | | | C | *x* = 0 | |  | | | D | *x* = 5 | |  | | |  | | **9.1**6*x* + 1 = 9*x* − 5 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **9.2**7*x* − 6 = 5*x* + 4 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **9.3***x* − 4 = 7*x* − 4 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **9.4**4*x* = 21 − 3*x* |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | |

|  |
| --- |
| 1. Expand 6(*y* + 3) − 2(*y*− 2) |
| |  |  | | --- | --- | |  | 4*y* + 22 | |  | 8*y* + 16 | |  | 6*y* + 4 | |  | 4*y* + 14 | |

|  |
| --- |
| 1. Find the value of *p* in the equation 5(2*p* − 1) = 3(*p* + 6) − 7 |
| |  |  | | --- | --- | |  | *p* = 9 | |  | *p* = 16⁄7 | |  | *p* = 16 | |  | *p* = 6⁄7 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Match each equation on the left with its solution on the right.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *Using the pull-down menus, match each item in the left column to the corresponding item in the right column.* | | | | | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | |  |  | | --- | --- | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | A | *m* = 18 | |  | | | B | *m* = 10 | |  | | | C | *m* = 12 | |  | | | D | *m* = 15 | |  | | |  | | **14.1***m*⁄3 − 4 = 2 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **14.2**7 = *m*⁄5 + 4 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **14.3**6 + *m*⁄4 = 9 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **14.4**3*m*⁄2 = 2*m* − 5 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | |

|  |
| --- |
| 1. The solution to the equation 4(*t* + 3) − (*t* + 2) = 13 is: |
| |  |  | | --- | --- | |  | *t* = 3 | |  | *t* = −1⁄3 | |  | *t* = 2 | |  | *t* = 1 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Match each number on the left with the list of its multiples on the right.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *Using the pull-down menus, match each item in the left column to the corresponding item in the right column.* | | | | | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | |  |  | | --- | --- | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | A | 6, 9, 12, 15 | |  | | | B | 16, 24, 32, 40 | |  | | | C | 10, 15, 20, 25 | |  | | | D | 14, 21, 28, 35 | |  | | |  | | **17.1**3 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **17.2**7 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **17.3**5 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **17.4**8 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | |

|  |
| --- |
| 1. Find the solution to the equation 3*w*⁄2 + *w*⁄3 = 11 |
| |  |  | | --- | --- | |  | *w* = 161⁄2 | |  | *w* = 1 | |  | *w* = 6 | |  | *w* = 11⁄24 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Match each inequality sign on the left to its meaning.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *Using the pull-down menus, match each item in the left column to the corresponding item in the right column.* | | | | | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | |  |  | | --- | --- | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | A | less than or equal to | |  | | | B | greater than or equal to | |  | | | C | greater than | |  | | | D | less than | |  | | |  | | **19.1**> |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **19.2**< |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **19.3**≥ |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **19.4**≤ |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | |

|  |
| --- |
| 1. What is the set of values of *x* which has been graphed on this number line?   **ns9_0821.gif** |
| |  |  | | --- | --- | |  | *x* > 2 | |  | *x* < 2 | |  | *x* = 2 | |  | *x* ≤ 2 | |

|  |
| --- |
| 1. When multiplying or dividing an inequation by a negative numeral, the inequality sign must be \_\_\_\_\_ to obtain an equivalent inequality. |
| |  |  | | --- | --- | |  | unchanged | |  | removed | |  | changed to an equals sign | |  | reversed | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Match each inequation on the left with its solution from the list on the right.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *Using the pull-down menus, match each item in the left column to the corresponding item in the right column.* | | | | | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | |  |  | | --- | --- | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | A | *y* < 5 | |  | | | B | *y* < −50 | |  | | | C | *y*> −8 | |  | | | D | *y* < 9 | |  | | |  | | **22.1***y* + 6 < 15 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **22.2**3 > *y* − 2 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **22.3***y*⁄5 < −10 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **22.4**−3*y*< 24 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Match each inequation on the left with its solution from the list on the right.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *Using the pull-down menus, match each item in the left column to the corresponding item in the right column.* | | | | | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | |  |  | | --- | --- | | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif | | | A | *b* ≤ 6 | |  | | | B | *b* ≤ 9 | |  | | | C | *b* ≥ 3 | |  | | | D | *b* ≤ 3 | |  | | |  | | **23.1**2*b* + 5 ≤ 11 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **23.2**3(*b* + 2) ≥ 15 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **23.3**2 − *b* ≥ −4 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | | **23.4**(*b*− 1)⁄4 ≤ 2 |  |  | G:\2015-2016\10\launch_book\cw9\uaensm9\uaensm9\media\styles\90\_skins_\A\australia_school\pixel.gif |  | |  | | | |  | |

|  |
| --- |
| 1. The solution to = , is m = . |