

3.OA.D.9 Following the Rule

3.OA.D.9: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

Fill in the missing numbers in a pattern and then write a rule for each pattern.

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|--|-------------|
| 1. 3, 5, 7, _____, 11, _____ | Rule: _____ |
| 2. 97, 88, 79, _____, _____, 52 | Rule: _____ |
| 3. 43, 35, _____, 19, _____, 3 | Rule: _____ |
| 4. 3, 9, 8, _____, 13, _____ | Rule: _____ |
| 5. 97, 93, 95, _____, _____, 89 | Rule: _____ |
| 6. 43, 35, 38, _____, 33, _____, 28 | Rule: _____ |
| 7. 41, 37, 33, _____, 25, _____, 17 | Rule: _____ |

Follow the rule to complete each number pattern.

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|------------------------|--|
| 8. Add 6. | 25, 31, _____, _____, _____, _____, _____ |
| 9. Add 8. | 31, 39, _____, _____, _____, _____, _____ |
| 10. Add 12. | 1, 13, _____, _____, _____, _____, _____ |
| 11. Subtract 4. | 213, _____, _____, _____, _____, _____ |
| 12. Subtract 3. | 98, 95, _____, _____, _____, _____, _____ |

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Answer Key

3.OA.D.9: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

Fill in the missing numbers in a pattern and then write a rule for each pattern.

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| 1. 3, 5, 7, <u>9</u> , 11, <u>13</u> | Rule: <u>Add 2.</u> |
| 2. 97, 88, 79, <u>70</u> , <u>61</u> , 52 | Rule: <u>Subtract 9.</u> |
| 3. 43, 35, <u>27</u> , 19, <u>11</u> , 3 | Rule: <u>Subtract 8.</u> |
| 4. 3, 9, 8, <u>14</u> , 13, <u>19</u> | Rule: <u>Add 6 and then subtract 1.</u> |
| 5. 97, 93, 95, <u>91</u> , <u>93</u> , 89 | Rule: <u>Subtract 4 and then add 2.</u> |
| 6. 43, 35, 38, <u>30</u> , 33, <u>25</u> , 28 | Rule: <u>Subtract 8 and then add 3.</u> |
| 7. 41, 37, 33, <u>29</u> , 25, <u>21</u> , 17 | Rule: <u>Subtract 4.</u> |

Follow the rule to complete each number pattern.

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|-----------------|---|
| 8. Add 6. | 25, 31, <u>37</u> , <u>43</u> , <u>49</u> , <u>55</u> , <u>61</u> |
| 9. Add 8. | 31, 39, <u>47</u> , <u>55</u> , <u>63</u> , <u>71</u> , <u>79</u> |
| 10. Add 12. | 1, 13, <u>25</u> , <u>37</u> , <u>49</u> , <u>61</u> , <u>73</u> |
| 11. Subtract 4. | 213, <u>209</u> , <u>205</u> , <u>201</u> , <u>197</u> , <u>193</u> |
| 12. Subtract 3. | 98, 95, <u>92</u> , <u>89</u> , <u>86</u> , <u>83</u> , <u>80</u> |