

### *Practice with Perfect Squares*

In this activity, students will use their TI-84 handheld in to participate in a TI Navigator Activity Center whole group instruction introduction of perfect squares. The goal is for students to understand that all even numbers are not perfect squares and to be able to list the first 25 after practice with the grid in the background of the activity center.

#### *Opening Meeting:*

Students will be asked to observe the 6 x 6 on the background of the Activity Center.

Teacher can ask several numeracy questions concerning the grid, such as:

- 1) How many prime numbers are on the grid?
- 2) How many composite numbers are on the grid?
- 3) Is there a number on the grid that is neither prime nor composite?
- 4) Are there any numbers on the grid that have two of the same factors?

#### *Work Session:*

After several probing questions like the ones above, have students mark the answers to question four above (if you ask more than four questions, make this question the last one asked. Ask:

- 1) If you were to list only the numbers marked on the grid, what commonalities do you notice about them?
- 2) Do you see a pattern?
- 3) Can you guess what the next number in the sequence would be?

To accommodate all students, print a copy of the grid for each and have them mark the answers on the grid as they did using the calculator. Students should begin to see the pattern of multiplying the counting numbers by themselves to get the next number in the sequence.

#### *Closing:*

Give students another 6 x 6 grid with the numbers 37-72 and have them mark off the perfect squares. Have them compare their answers with a partner or their group to confirm or deny their responses.

#### *Challenge:*

For those students needing an extension, have them give them a copy of the 1-36 6 x 6 grid and have them shade the numbers that are not perfect squares, but have a perfect square as a factor. Challenge them to simplify the square root of these numbers.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>

<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>	<b>41</b>	<b>42</b>
<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>
<b>49</b>	<b>50</b>	<b>51</b>	<b>52</b>	<b>53</b>	<b>54</b>
<b>55</b>	<b>56</b>	<b>57</b>	<b>48</b>	<b>49</b>	<b>60</b>
<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>
<b>67</b>	<b>68</b>	<b>69</b>	<b>70</b>	<b>71</b>	<b>72</b>

<b>73</b>	<b>74</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>
<b>79</b>	<b>80</b>	<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>
<b>85</b>	<b>86</b>	<b>87</b>	<b>88</b>	<b>89</b>	<b>90</b>
<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>
<b>97</b>	<b>98</b>	<b>99</b>	<b>100</b>	<b>101</b>	<b>102</b>
<b>103</b>	<b>104</b>	<b>105</b>	<b>106</b>	<b>107</b>	<b>108</b>