

# Chapter 17 End-of-Chapter Problems

Halliday & Resnick, 10th Edition

Donald Aingworth IV

Hit me where it Matters

# 1 Problem 1

## 1.1 Solution

## 2 Problem 3

### 2.1 Solution

## 3 Problem 5

### 3.1 Solution

## 4 Problem 7

### 4.1 Solution

## 5 Problem 11

### 5.1 Solution

## 6 Problem 15

### 6.1 Solution

## 7 Problem 17

### 7.1 Solution



## 8 Problem 19

### 8.1 Solution

## 9 Problem 20

### 9.1 Solution

## 10 Problem 25

### 10.1 Solution

## 11 Problem 27

### 11.1 Solution

## 12 Problem 29

### 12.1 Solution

## 13 Problem 35

### 13.1 Solution

## 14 Problem 39

### 14.1 Solution

## 15 Problem 41

### 15.1 Solution



## 16 Problem 47

### 16.1 Solution

## 17 Problem 49

### 17.1 Solution

## 18 Problem 51

### 18.1 Solution

## **19 Problem 53**

### **19.1 Solution**

## 20 Problem 55

### 20.1 Solution

## 21 Problem 57

### 21.1 Solution

## 22 Problem 61

### 22.1 Solution

## **23 Problem 63**

### **23.1 Solution**



## 24 Problem 71

### 24.1 Solution

## 25 Problem 81

### 25.1 Solution

## 26 Problem 87

### 26.1 Solution

## 27 Problem 99

### 27.1 Solution

## 28 Problem 107

### 28.1 Solution

# Contents

|                         |           |
|-------------------------|-----------|
| <b>1 Problem 1</b>      | <b>2</b>  |
| 1.1 Solution . . . . .  | 2         |
| <b>2 Problem 3</b>      | <b>3</b>  |
| 2.1 Solution . . . . .  | 3         |
| <b>3 Problem 5</b>      | <b>4</b>  |
| 3.1 Solution . . . . .  | 4         |
| <b>4 Problem 7</b>      | <b>5</b>  |
| 4.1 Solution . . . . .  | 5         |
| <b>5 Problem 11</b>     | <b>6</b>  |
| 5.1 Solution . . . . .  | 6         |
| <b>6 Problem 15</b>     | <b>7</b>  |
| 6.1 Solution . . . . .  | 7         |
| <b>7 Problem 17</b>     | <b>8</b>  |
| 7.1 Solution . . . . .  | 8         |
| <b>8 Problem 19</b>     | <b>9</b>  |
| 8.1 Solution . . . . .  | 9         |
| <b>9 Problem 20</b>     | <b>10</b> |
| 9.1 Solution . . . . .  | 10        |
| <b>10 Problem 25</b>    | <b>11</b> |
| 10.1 Solution . . . . . | 11        |
| <b>11 Problem 27</b>    | <b>12</b> |
| 11.1 Solution . . . . . | 12        |
| <b>12 Problem 29</b>    | <b>13</b> |
| 12.1 Solution . . . . . | 13        |
| <b>13 Problem 35</b>    | <b>14</b> |
| 13.1 Solution . . . . . | 14        |

|                         |           |
|-------------------------|-----------|
| <b>14 Problem 39</b>    | <b>15</b> |
| 14.1 Solution . . . . . | 15        |
| <b>15 Problem 41</b>    | <b>16</b> |
| 15.1 Solution . . . . . | 16        |
| <b>16 Problem 47</b>    | <b>17</b> |
| 16.1 Solution . . . . . | 17        |
| <b>17 Problem 49</b>    | <b>18</b> |
| 17.1 Solution . . . . . | 18        |
| <b>18 Problem 51</b>    | <b>19</b> |
| 18.1 Solution . . . . . | 19        |
| <b>19 Problem 53</b>    | <b>20</b> |
| 19.1 Solution . . . . . | 20        |
| <b>20 Problem 55</b>    | <b>21</b> |
| 20.1 Solution . . . . . | 21        |
| <b>21 Problem 57</b>    | <b>22</b> |
| 21.1 Solution . . . . . | 22        |
| <b>22 Problem 61</b>    | <b>23</b> |
| 22.1 Solution . . . . . | 23        |
| <b>23 Problem 63</b>    | <b>24</b> |
| 23.1 Solution . . . . . | 24        |
| <b>24 Problem 71</b>    | <b>25</b> |
| 24.1 Solution . . . . . | 25        |
| <b>25 Problem 81</b>    | <b>26</b> |
| 25.1 Solution . . . . . | 26        |
| <b>26 Problem 87</b>    | <b>27</b> |
| 26.1 Solution . . . . . | 27        |

|                         |           |
|-------------------------|-----------|
| <b>27 Problem 99</b>    | <b>28</b> |
| 27.1 Solution . . . . . | 28        |
| <b>28 Problem 107</b>   | <b>29</b> |
| 28.1 Solution . . . . . | 29        |