U.S.C.G. Merchant Marine Exam

Chief Engineer-Limited

Q605 Steam Plants

(Sample Examination)
Choose the best answer to the following Multiple Choice Questions.

1. Which of the listed refractory materials can be used in an area directly exposed to the highest heat in the furnace?
   - (A) Insulating block
   - (B) Firebrick
   - (C) Insulating brick
   - (D) Baffle mix

   *If choice B is selected set score to 1.*

2. What is the primary operational difference between a nozzle reaction safety valve and a huddling chamber safety valve?
   - (A) The manner in which lifting pressure is adjusted.
   - (B) The manner in which steam pressure causes initial valve opening.
   - (C) The difference in valve relieving capacities.
   - (D) The principle by which blowdown is accomplished.

   *If choice D is selected set score to 1.*

3. Which of the following statements represents the purpose of boiler sliding feet?
   - (A) To accommodate the changing length of the water drum as it expands or contracts with temperature changes.
   - (B) To compensate for deflection of the hull in way of the boiler supports.
   - (C) To ensure an airtight seal between the boiler inner and outer casings.
   - (D) To allow for unequal expansion between the wrapper and tube sheets.

   *If choice A is selected set score to 1.*

4. Which of the listed refractory materials can be used in an area directly exposed to the highest heat in the furnace?
   - (A) Insulating block
   - (B) Baffle mix
   - (C) Insulating brick
   - (D) Firebrick

   *If choice D is selected set score to 1.*
5. In what section of a boiler would you find a steam quality of 90%?
   - (A) Desuperheater outlet
   - (B) Steam drum
   - (C) Last pass of the superheater
   - (D) Superheater outlet

   *If choice B is selected set score to 1.*

6. Desuperheated steam can be found at the __________.
   - (A) generator steam stop
   - (B) main steam stop
   - (C) high pressure turbine steam chest
   - (D) spray attemperator outlet

   *If choice D is selected set score to 1.*

7. The boiler economizer provides additional heat to the __________.
   - (A) steam leaving the superheater
   - (B) air supply entering the furnace
   - (C) fuel oil entering the furnace
   - (D) feedwater entering the boiler

   *If choice D is selected set score to 1.*

8. One factor for determining the minimum feedwater inlet temperature to a boiler economizer is the __________.
   - (A) desuperheater outlet temperature
   - (B) superheater inlet temperature
   - (C) dew point temperature of the stack gases
   - (D) temperature of steam bled off the LP turbine

   *If choice C is selected set score to 1.*

9. A furnace wall in which there are open spaces around the brick as a result of firebrick shrinkage, is __________.
   - (A) spalled and must be replaced
   - (B) loose and should be repaired
   - (C) normal and need only be cleaned
   - (D) cracked and must be patched

   *If choice B is selected set score to 1.*
10. Which of the listed mediums should be used when water washing a boiler?

- (A) Cold fresh water
- (B) Cold salt water
- (C) Heated salt water
- (D) Heated fresh water

*If choice D is selected set score to 1.*

11. Scavenging air lines are connected to boiler stack periscopes to __________.

- (A) maintain a negative pressure in the periscope line
- (B) keep the periscope tubing from warping
- (C) prevent stack gases from contaminating the periscopes internal components
- (D) keep the mirrors from misaligning

*If choice C is selected set score to 1.*

12. Which of the tools listed is used to remove a boiler tube from a header?

- (A) Backing out tool
- (B) Laminating tool
- (C) Swaging tool
- (D) Expanding tool

*If choice A is selected set score to 1.*

13. Which of the methods listed would be most effective in repairing a steam cut on a seating surface of a superheater handhole plate?

- (A) Filling the cut by welding and then grinding it smooth.
- (B) Refacing the surface and over-torquing the handhole plate.
- (C) Filling the cut with iron cement or plastic steel.
- (D) Grinding the seating surface and installing an oversized gasket.

*If choice A is selected set score to 1.*

14. The minimum temperature requirements for fuel oil in storage tanks is related to the _________.

- (A) size of the vents
- (B) pumpability of the oil
- (C) size of the containment area in case of overflow
- (D) fire point of the oil

*If choice B is selected set score to 1.*
15. The flash point of a residual fuel oil should be used to determine the highest temperature to which the oil may be heated _________.
   - (A) in the recirculating line
   - (B) for centrifuging
   - (C) for atomizing
   - (D) in a storage tank

   *If choice D is selected set score to 1.*

16. Which combustible element in fuel oil is considered a significant and major source of air pollution?
   - (A) Hydrogen
   - (B) Nitrogen
   - (C) Sulfur
   - (D) Vanadium

   *If choice C is selected set score to 1.*

17. According to the data given in the illustration which of the following would be the physical state of the fluid at a gage vacuum of 25.03 inches Hg, and 126.08 degrees Fahrenheit? Illustration SG-0026
   - (A) Subcooled liquid.
   - (B) Superheated vapor.
   - (C) Mixture of saturated liquid and vapor.
   - (D) Saturated liquid.

   *If choice A is selected set score to 1.*

18. Which of the conditions listed occurs when glassy slag, formed by the burning of fuel oil contaminated with salt water, melts and runs over the furnace wall?
   - (A) Increased furnace temperature.
   - (B) Cracks through the furnace floor.
   - (C) Formation of a protective coating.
   - (D) Damage to the furnace refractory.

   *If choice D is selected set score to 1.*

19. Blisters developing on boiler tubes can be caused by _________.
   - (A) air in the feedwater
   - (B) cold feedwater
   - (C) waterside scale deposits
   - (D) hot feedwater

   *If choice C is selected set score to 1.*
20. Slag buildup on boiler furnace refractory is undesirable because it causes __________.

- (A) peeling or spalling of the brickwork
- (B) shrinking of the brickwork
- (C) excessive cooling of the brickwork
- (D) fracturing of the anchor bolts

*If choice A is selected set score to 1.*

21. The major heat loss in an oil-fired boiler is the heat __________.

- (A) going up the stack
- (B) passing through the boiler casing
- (C) used in the economizer and air heater
- (D) required to change water into steam

*If choice A is selected set score to 1.*

22. High boiler water level can cause carryover and __________.

- (A) damage to the superheater tubes
- (B) warped screen tubes
- (C) warped waterwall tubes
- (D) damage to the economizer

*If choice A is selected set score to 1.*

23. Which of the conditions listed would indicate excessive soot buildup on the economizer?

- (A) High feedwater temperature entering the boiler
- (B) Low air temperature entering the boiler
- (C) Lower than usual air pressure in the furnace
- (D) High superheater temperature

*If choice D is selected set score to 1.*

24. An excessively high superheater temperature could be the result of __________.

- (A) soot accumulation on the superheater
- (B) excessive steam demand
- (C) excessive air
- (D) high feedwater temperature

*If choice C is selected set score to 1.*
25. When testing boiler flue gas with a chemical absorption apparatus, to obtain accurate results __________.
   o (A) purge the apparatus with air before use
   o (B) analyze for nitrogen content before oxygen content
   o (C) prevent any air from contaminating the gas sample
   o (D) run each analysis for at least 3 minutes

   *If choice C is selected set score to 1.*

26. Which of the following chemicals is used in an Orsat apparatus to absorb carbon dioxide?
   o (A) Cuprous chloride
   o (B) Pyrogallic acid
   o (C) Potassium chromate
   o (D) Potassium hydroxide

   *If choice D is selected set score to 1.*

27. When you are transferring fuel oil to the settling tanks, precautions to be observed should include __________.
   o (A) maintaining a supply of chemical dispersant to cleanup minor oil spills adjacent to the ship
   o (B) sounding the tanks frequently and reducing the transfer rate as the level approaches maximum fill
   o (C) plugging gooseneck tank vents to prevent accidental overflow
   o (D) maintaining a high transfer rate until a slight trickle of oil is observed flowing from the overflow line

   *If choice B is selected set score to 1.*

28. Fuel oil is transferred to the settling tanks for __________.
   o (A) purging of any large air bubbles that have formed
   o (B) heating to the correct temperature for proper burner atomization
   o (C) heating to allow water and sediment to settle out
   o (D) the purpose of removing any volatile gases present in the fuel

   *If choice C is selected set score to 1.*

29. Testing boiler water for chloride content will indicate the amount of __________.
   o (A) total alkalinity in the water
   o (B) dissolved salts from sea contamination
   o (C) methyl orange that should be added
   o (D) phosphates present in the water

   *If choice B is selected set score to 1.*
30. Calcium minerals in boiler water are precipitated out of solution by the use of which of the listed chemicals?
   - (A) Caustic soda
   - (B) Sodium hydroxide
   - (C) Sodium phosphate
   - (D) Phenolphthalein

   *If choice C is selected set score to 1.*

31. Excessive alkalinity of boiler water will cause ________.
   - (A) sodium sulfite reacting with dissolved oxygen
   - (B) caustic embrittlement
   - (C) calcium carbonate precipitation
   - (D) scale formation

   *If choice B is selected set score to 1.*

32. Carbon dioxide dissolved in boiler water is dangerous in a modern power boiler because the gas ________.
   - (A) combines with oxygen to cause severe waterside scaling
   - (B) breaks the magnetic iron oxide film inside boiler tubes
   - (C) combines with sulfates to cause severe waterside pitting
   - (D) forms carbonic acid which attacks the watersides

   *If choice D is selected set score to 1.*

33. Which of the following represents a significant system limitation to be aware of when a burner management system is operated in the 'HAND' mode?
   - (A) The burner sequence control is fully automatic even in the 'HAND' mode.
   - (B) The flame failure alarm cannot function when the boiler is 'HAND' fired.
   - (C) The burner is not capable of maintaining a high firing rate when the boiler is in the 'HAND' mode.
   - (D) Some boiler safety interlocks are bypassed when the boiler is 'HAND' fired.

   *If choice D is selected set score to 1.*

34. As found in a basic pneumatic automatic combustion control system, the function of a standardizing relay is to ________.
   - (A) control the boiler drum water level within acceptable limits regardless of the load
   - (B) provide a backup means for manual control of the system
   - (C) introduce a control for maintaining constant superheated steam temperature regardless of boiler load
   - (D) introduce a control for maintaining constant steam pressure regardless of boiler load

   *If choice D is selected set score to 1.*
35. In a boiler automation system, if a burner fuel oil solenoid valve continually trips closed under normal steaming conditions, you should _________.

- (A) bypass the solenoid valve and enter the fact in the logbook
- (B) wedge the valve in the open position and reduce the fuel oil pressure at that burner
- (C) secure the burner and determine the cause of the valve failure
- (D) wedge the valve in the open position and report it to the chief engineer

*If choice C is selected set score to 1.*

36. Modern day boiler automation allows bypassing the “flame safeguard” system to permit a burner to have a “trial for ignition” period during burner light-off. This period may not exceed _______.

- (A) 5 seconds
- (B) 10 seconds
- (C) 15 seconds
- (D) 30 seconds

*If choice C is selected set score to 1.*

37. Which of the precautions listed should be taken when gagging a boiler safety valve?

- (A) Do not allow the gag to contact the safety valve stem.
- (B) Ensure that all moving parts of the safety valve are free to move before installing the gag.
- (C) Tighten the gag only with the special wrench supplied with the gag.
- (D) Tighten the gag only finger tight to prevent damage to the valve stem, disc or seat.

*If choice D is selected set score to 1.*

38. To stop the rotor of a main turbine while underway at sea you should __________.

- (A) secure all steam to the turbine
- (B) admit astern steam to the turbine after securing the ahead steam
- (C) tighten the stern tube packing gland
- (D) apply the Prony brake

*If choice B is selected set score to 1.*

39. Before placing the jacking gear in operation on a main turbine unit, you must always ensure that _________.

- (A) the main lube oil system is operating
- (B) the main salt water circulating pump is operating
- (C) the condensate system is operating
- (D) the gland seal steam system is operating

*If choice A is selected set score to 1.*
40. To prevent damage to the turning gear mechanism, which of the following procedures must be carried out before the turning gear is engaged?

- (A) The propeller shaft must be stopped and held stationary until the clutch is engaged.
- (B) The brake on the first reduction worm shaft must be set.
- (C) The speed of the astern turbine must be reduced.
- (D) The engine order telegraph must be on 'stop'.

*If choice A is selected set score to 1.*

41. Prior to rolling the main turbines in preparation for getting underway, you should __________.

- (A) open the reduction gear casing access plates and inspect the lube oil spray pattern
- (B) secure the gland sealing steam regulator
- (C) disengage the turning gear
- (D) circulate the lube oil through the emergency lube oil cooler

*If choice C is selected set score to 1.*

42. While a vessel is underway the low-pressure turbine high-speed pinion is damaged. The pinion is then removed from the gear train. Under these circumstances, the main unit is capable of which speed and direction?

- (A) Reduced speed ahead only
- (B) Reduced speed astern only
- (C) Reduced speed ahead and full speed astern
- (D) Reduced speed astern and full speed ahead

*If choice A is selected set score to 1.*

43. If a major flareback occurs to a boiler, which of the following actions should be immediately taken?

- (A) Secure the forced draft fan.
- (B) Purge the fuel oil system.
- (C) Secure all fireroom ventilation.
- (D) Secure the fuel to the burners.

*If choice D is selected set score to 1.*

44. After restoring the normal water level in a boiler following a high-water casualty, you should __________.

- (A) completely drain the superheater
- (B) blowdown the water gage glass
- (C) immediately put the boiler on the line
- (D) immediately drain the economizer

*If choice A is selected set score to 1.*
45. If the water level in one boiler of a two-boiler plant rapidly falls out of sight, which of the following actions should be carried out FIRST?

- (A) Secure the steam stop to that boiler.
- (B) Blowdown the gage glass.
- (C) Secure the fuel oil to that boiler.
- (D) Raise the feed pump pressure.

*If choice C is selected set score to 1.*

46. Which of the following actions should be carried out if the boiler water level is falling due to a tube failure?

- (A) Secure the fires and try to maintain the water level.
- (B) Start the standby feed pump and feed the boiler using two feed pumps.
- (C) Speed up the feed pump to keep the water level up while firing the boiler.
- (D) Open the auxiliary feed stop and check for extra feed.

*If choice A is selected set score to 1.*

47. Turbine casing flanges are sometimes provided with a system of joint grooving to __________.

- (A) ensure perfect alignment of casing halves
- (B) form a labyrinth seal between the casing halves
- (C) inject sealing compound between the casing halves
- (D) increase contact pressure between the casing halves' flanges

*If choice C is selected set score to 1.*

48. Allowance for axial expansion of the steam turbine due to temperature changes is provided for by the use of __________.

- (A) a deep flexible I beam support
- (B) rotor position indicators
- (C) pivoted-shoe type thrust bearings
- (D) casing flexible joints

*If choice A is selected set score to 1.*

49. A common cause of the Babbitt linings cracking in a turbine journal bearing is from __________.

- (A) vibration generated by the rotor
- (B) excessive thrust bearing wear
- (C) prolonged operation at full-speed
- (D) prolonged operation at low-speed

*If choice A is selected set score to 1.*
50. The main propulsion turbine can be damaged by __________.

- (A) water carryover from the boilers
- (B) operating at slow speeds
- (C) maintaining vacuum too high
- (D) using the jacking gear when there is no vacuum

*If choice A is selected set score to 1.*

51. If the main propulsion turbine begins to vibrate severely while you are increasing speed, you should __________.

- (A) hold the turbine at that speed until vibration stops
- (B) stop the turbine and not answer any more bells
- (C) open the throttle wider to pass through the critical speed
- (D) immediately slow the turbine to see if the vibration will stop

*If choice D is selected set score to 1.*

52. The original bridge gauge reading for a reduction gear bearing was measured as 0.008 inches. A year later, the bridge gauge reading for the same bearing is 0.010 inches. This indicates __________.

- (A) oil clearance has increased 0.010 inch
- (B) oil clearance is 0.002 inch
- (C) bearing wear is 0.010 inch
- (D) bearing wear is 0.002 inch

*If choice D is selected set score to 1.*

53. A sequential lift, nozzle valve control bar on a turbo-generator, utilizes which of the following operating principles?

- (A) A lifting beam mechanism engages nozzle valve stems of varying lengths.
- (B) A hydraulic piston raises or lowers groups of valves according to pressure received from a governor.
- (C) A hydraulic piston raises or lowers individual valves according to pressure received from a governor.
- (D) A servomotor, mechanically connected to nozzle valve handwheels, opens or closes the valves in accordance with the type of electrical signal received.

*If choice A is selected set score to 1.*
54. A back-pressure trip on a ship’s service turbo-generator functions to trip the turbine under what circumstance?

- (A) gland seal leakoff pressure is too high
- (B) lubricating oil pressure is too low
- (C) amount of cooling water to the condenser is insufficient
- (D) amount of cooling water to the condenser is excessive

*If choice C is selected set score to 1.*

55. An excess pressure governor would normally be used on a _________.

- (A) forced draft fan
- (B) main circulator pump
- (C) turbine-driven feed pump
- (D) low-pressure propulsion turbine

*If choice C is selected set score to 1.*

56. Which of the listed actions will occur when there is an increase in load on a ship service generator equipped with a centrifugal type hydraulic governor? Illustration SE-0009

- (A) More oil will enter the operating cylinder (O).
- (B) Steam flow to the turbine decreases.
- (C) The operating piston is forced to move lower.
- (D) The governor weights move outward.

*If choice A is selected set score to 1.*

57. Which of the following would cause the dowel or locking lip of a split-type, precision insert, main bearing to shear and allow the bearing to rotate with the journal?

- (A) Unequal torque to any two adjacent bearing bolts
- (B) Excessive bearing bolt torque
- (C) Short periods of above normal operating speeds
- (D) Insufficient bearing crush

*If choice D is selected set score to 1.*

58. The most practical method of determining the condition of a shaft bearing while the shaft is in operation is to _________.

- (A) perform a carbon blot test on an oil sample from the bearing
- (B) check the lube oil viscosity
- (C) visually inspect the bearing
- (D) check the lube oil temperature

*If choice D is selected set score to 1.*
59. The splits located in the halves of main reduction gear bearings are aligned at an angle to the horizontal in order to resist __________.

- (A) wiping
- (B) axial stress
- (C) oil loss
- (D) steam loss

*If choice A is selected set score to 1.*

60. Most main propulsion reduction gear bearings are __________.

- (A) self-lubricating, sealed, roller ball type
- (B) rigidly mounted, Babbitt lined, split type
- (C) spherical-seated, tapered roller type
- (D) self-aligning, solid bushings

*If choice B is selected set score to 1.*

61. The part shown in the illustration would be located between which of the following components of a modern geared turbine main propulsion unit? Illustration SE-0001

- (A) Between the first reduction gears and high-speed pinions of the high-pressure and low-pressure turbines.
- (B) Between the bull gear and line shaft on the side of the gear opposite the thrust bearing.
- (C) Between the bull gear and line shaft on the thrust bearing side of the gear.
- (D) Between the rotors and high-speed pinions of the high-pressure and low-pressure turbines.

*If choice D is selected set score to 1.*

62. The base ring shown in the illustration is identified by the letter __________. Illustration SE-0012

- (A) A
- (B) E
- (C) C
- (D) D

*If choice D is selected set score to 1.*

63. The reduction gear shown in the illustration is a/an __________. Illustration SE-0013

- (A) locked-train double reduction gear
- (B) articulated double reduction gear
- (C) nested double reduction gear
- (D) nested four-step reduction gear

*If choice B is selected set score to 1.*
64. Which of the following operational practices is helpful in avoiding the accumulation of condensate in the main reduction gear casing?

- (A) Avoid applying gland sealing steam to the low-pressure turbine until you are ready to start up the first stage air ejector.
- (B) After the main unit is secured, lubricating oil should be circulated until the temperature of the oil and reduction gear casing approximates the engine room temperature.
- (C) The temperature of the lubricating oil should not exceed the gear manufacturer's recommendation when the unit is operating at full load.
- (D) Always ensure that the lubricating oil pressure is 14-17 psi when operating in unusually cold waters.

If choice B is selected set score to 1.

65. The part labeled "G", as shown in the illustration, is a __________. Illustration MO-0040

- (A) connecting rod cap
- (B) piston bushing
- (C) connecting rod bushing
- (D) bearing shell

If choice C is selected set score to 1.

66. The valve cam slope angle determines the __________.

- (A) acceleration rate of valve opening and closing
- (B) diameter of intake and exhaust valves
- (C) engine fuel efficiency
- (D) engine torque characteristics

If choice A is selected set score to 1.

67. Before any auxiliary diesel engine hydraulic starting system is opened for servicing or repair, you must __________.

- (A) block all hydraulic hoses using high-pressure covers
- (B) place all control levers in the 'HOLD' position
- (C) ensure that the hydraulic fluid reservoir is full
- (D) bleed off all hydraulic pressure from the system

If choice D is selected set score to 1.
68. On small diesel engines, a noticeable decrease in the time interval between the replacement of the lube filter cartridge indicates __________.
   o (A) dirty air filter
   o (B) excessive oil pressure
   • (C) piston ring blow-by
   o (D) excessive oil temperature

   If choice C is selected set score to 1.

69. In a four-stroke cycle diesel engine, badly worn intake valve guides can cause excessive __________.
   o (A) exhaust pressure
   • (B) lube oil consumption
   o (C) exhaust temperatures
   o (D) cooling water temperatures

   If choice B is selected set score to 1.

70. One remedy for a high firing pressure, in addition to a high exhaust temperature in one cylinder of a diesel engine, is to __________.
   o (A) retard fuel injector timing
   o (B) increase scavenge air pressure
   • (C) adjust the fuel rack
   o (D) reduce fuel booster pump pressure

   If choice C is selected set score to 1.
SE-0012

Stationary View

Rotating View

Adapted for testing purposes only from Machinist's Mate 3 & 2
NAVEDTRA 14151
Further reproduction prohibited without permission
### Properties of Saturated Steam

<table>
<thead>
<tr>
<th>Vacuum Inches of Hg Gage</th>
<th>Temperature °C</th>
<th>Temperature °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>29.51</td>
<td>11.74</td>
<td>53.14</td>
</tr>
<tr>
<td>29.41</td>
<td>15.17</td>
<td>59.30</td>
</tr>
<tr>
<td>29.31</td>
<td>18.04</td>
<td>64.47</td>
</tr>
<tr>
<td>29.21</td>
<td>20.52</td>
<td>68.93</td>
</tr>
<tr>
<td>29.11</td>
<td>22.70</td>
<td>72.86</td>
</tr>
<tr>
<td>29.00</td>
<td>24.66</td>
<td>76.38</td>
</tr>
<tr>
<td>28.90</td>
<td>26.43</td>
<td>79.58</td>
</tr>
<tr>
<td>28.70</td>
<td>29.56</td>
<td>85.21</td>
</tr>
<tr>
<td>28.49</td>
<td>32.27</td>
<td>90.08</td>
</tr>
<tr>
<td>28.29</td>
<td>34.66</td>
<td>94.38</td>
</tr>
<tr>
<td>28.09</td>
<td>36.80</td>
<td>98.24</td>
</tr>
<tr>
<td>27.88</td>
<td>38.74</td>
<td>101.74</td>
</tr>
<tr>
<td>27.48</td>
<td>42.18</td>
<td>107.92</td>
</tr>
<tr>
<td>27.06</td>
<td>45.14</td>
<td>113.26</td>
</tr>
<tr>
<td>26.66</td>
<td>47.77</td>
<td>117.99</td>
</tr>
<tr>
<td>26.26</td>
<td>50.13</td>
<td>122.23</td>
</tr>
<tr>
<td>25.85</td>
<td>52.27</td>
<td>126.08</td>
</tr>
<tr>
<td>25.44</td>
<td>54.23</td>
<td>129.62</td>
</tr>
<tr>
<td>25.03</td>
<td>56.05</td>
<td>132.89</td>
</tr>
<tr>
<td>24.63</td>
<td>57.74</td>
<td>135.94</td>
</tr>
<tr>
<td>24.22</td>
<td>59.33</td>
<td>138.79</td>
</tr>
<tr>
<td>23.81</td>
<td>60.82</td>
<td>141.48</td>
</tr>
<tr>
<td>22.79</td>
<td>64.21</td>
<td>147.57</td>
</tr>
<tr>
<td>21.78</td>
<td>67.21</td>
<td>152.97</td>
</tr>
<tr>
<td>20.76</td>
<td>69.91</td>
<td>157.83</td>
</tr>
<tr>
<td>19.74</td>
<td>72.36</td>
<td>162.24</td>
</tr>
<tr>
<td>18.72</td>
<td>74.61</td>
<td>166.30</td>
</tr>
<tr>
<td>17.70</td>
<td>76.70</td>
<td>170.06</td>
</tr>
<tr>
<td>16.69</td>
<td>78.64</td>
<td>173.56</td>
</tr>
<tr>
<td>15.67</td>
<td>80.47</td>
<td>176.85</td>
</tr>
<tr>
<td>14.65</td>
<td>82.14</td>
<td>179.86</td>
</tr>
<tr>
<td>13.63</td>
<td>83.81</td>
<td>182.86</td>
</tr>
<tr>
<td>12.61</td>
<td>85.36</td>
<td>185.64</td>
</tr>
<tr>
<td>11.60</td>
<td>86.82</td>
<td>188.28</td>
</tr>
<tr>
<td>10.58</td>
<td>88.22</td>
<td>190.80</td>
</tr>
<tr>
<td>9.56</td>
<td>89.57</td>
<td>193.21</td>
</tr>
<tr>
<td>7.52</td>
<td>92.08</td>
<td>197.75</td>
</tr>
<tr>
<td>5.49</td>
<td>94.42</td>
<td>201.96</td>
</tr>
<tr>
<td>3.45</td>
<td>96.60</td>
<td>205.88</td>
</tr>
<tr>
<td>1.42</td>
<td>98.64</td>
<td>209.56</td>
</tr>
</tbody>
</table>