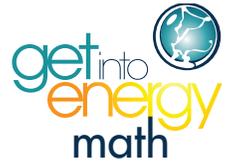


Name: _____ Date: _____



Get Into Energy Math
Student Quiz 9
Fractions and Decimals

1. Tom has 4 pole inspections to do and has completed 3 inspections. What fraction of the pole inspections has Tom completed?

- A. 75% of the inspections
- B. $\frac{3}{4}$ of the inspections
- C. $\frac{4}{3}$ of the inspections
- D. 13% of the inspections

2. Gail is an electrician assigned to monitor oil levels in the network transformers. Gail notes that the transformers had $\frac{2}{5}$ of a gallon added last month and she is adding $\frac{4}{5}$ of a gallon during her current inspections. Instead of logging $\frac{6}{5}$ of a gallon being added over the last 2 months, which of the following could Gail use to accurately report as the amount of oil added in the last 2 months?

- A. 1 gallon
- B. $1\frac{1}{5}$ gallons
- C. $1\frac{2}{5}$ gallons
- D. $\frac{2}{5}$ of a gallon

3. Leala is an electrician required to add oil to the transformers in a substation. Leala added the following amount of oil to three transformers: one transformer needed 1 gallon, another needed $\frac{1}{6}$ of a gallon, and the last transformer needed $\frac{2}{3}$ of a gallon. Leala could report that she used $1\frac{5}{6}$ of a gallon. Instead of $1\frac{5}{6}$ of a gallon, which of the following could Leala also say?

- A. $\frac{35}{6}$ of a gallon
- B. $1\frac{1}{6}$ of a gallon
- C. $\frac{6}{11}$ of a gallon
- D. 1.75 gallons

4. Gail is drilling holes alongside a foundation of a house to find the source of the natural gas leak that was reported by the homeowner. Gail has to drill 14 holes and she has completed 5 of them. What fraction of the total holes has Gail completed?

- A. 36% of the holes
- B. $\frac{1}{3}$ of the holes
- C. $\frac{5}{14}$ of the holes
- D. $\frac{7}{14}$ of the holes

5. Bob is a stock handler responsible for restocking the overhead line distribution trucks at the end of the day. Bob finds one truck has $\frac{1}{4}$ of a case of wedge connectors remaining. The other truck has $\frac{1}{3}$ of a case of wedge connectors remaining. What fraction of a case did Bob find on the 2 trucks?

- A. $\frac{1}{12}$ of a case
- B. $\frac{1}{6}$ of a case
- C. $\frac{2}{7}$ of a case
- D. $\frac{7}{12}$ of a case

6. René is an engineering technician working with the overhead line crew doing thermal inspections of wire taps. The crew had 19 miles of wire to inspect. During their first inspection period, the crew did $3\frac{1}{3}$ miles. In the second inspection period, the crew inspected $5\frac{1}{2}$ miles. After lunch, the crew inspected an additional $6\frac{3}{4}$ miles. How many miles of wire do René and the crew have left to inspect?

- A. $15\frac{7}{12}$ miles
- B. $1\frac{7}{12}$ miles
- C. $3\frac{5}{12}$ miles
- D. $1\frac{1}{2}$ miles

7. Tom's overhead line distribution crew is responding to a power outage impacting 52 residential customers. The crew estimates that each customer's restoration will take about $\frac{1}{5}$ of an hour. How many hours will it take Tom's crew to restore all the customers?

- A. $10 \frac{1}{5}$ hours
- B. 10 hours
- C. $10 \frac{2}{5}$ hours
- D. $10 \frac{3}{5}$ hours

8. Sarah and the overhead line crew are performing patroller inspections after a storm passed through a portion of the town. The crew has $5 \frac{1}{3}$ miles to patrol. Sarah decided to split the crew into 4 separate teams to speed up the inspections. How many miles does each crew have to inspect?

- A. $1 \frac{1}{3}$ miles
- B. $1 \frac{1}{2}$ miles
- C. $1 \frac{2}{7}$ miles
- D. $2 \frac{2}{3}$ miles

9. Enrique, a plant operator, is reviewing a parts inventory and sees that there are two cases of spare air filters. The first case was $\frac{1}{2}$ full and the second was $\frac{1}{3}$ full. What is the total number of cases available in inventory?

- A. $\frac{5}{6}$ cases
- B. $\frac{2}{5}$ cases
- C. $\frac{2}{3}$ cases
- D. $\frac{1}{6}$ cases

10. A monthly tally of the bottom ash shipped back to the coal company showed that two shipments were sent. The first shipment sent $10 \frac{1}{3}$ railcars of ash and the second sent $12 \frac{5}{6}$ railcars of ash. How many total railcars of ash were sent for the month?

- A. $22 \frac{6}{9}$ or $22 \frac{2}{3}$ railcars
- B. $23 \frac{1}{3}$ railcars
- C. $24 \frac{2}{6}$ or $24 \frac{1}{3}$ railcars
- D. $23 \frac{1}{6}$ railcars

11. Enrique is restocking supplies in the three water testing stations and wants to distribute $\frac{1}{2}$ of a case of litmus paper packs he has in stock evenly between the sampling stations. What fraction of the case should he stock each station with?

- A. $\frac{1}{3}$ of the case
- B. $\frac{1}{4}$ of the case
- C. $\frac{1}{5}$ of the case
- D. $\frac{1}{6}$ of the case

12. Kari took $4 \frac{1}{2}$ hours to complete a preventive maintenance task that tested the motor balance of 6 water pumps. If each pump took the same amount of time to test, how many hours did each pump's test take?

- A. $\frac{3}{4}$ hour
- B. $\frac{1}{2}$ hour
- C. $1 \frac{1}{2}$ hours
- D. $1 \frac{1}{4}$ hours

13. Gail is completing 2 welds in the remaining 5 hours of her work day. The first weld is going to take $1\frac{1}{4}$ hours to prep and weld. The second weld is going to take $2\frac{1}{2}$ hours to prep and weld. How much time will Gail have left in the remaining 5 hours of her work day?

- A. $3\frac{3}{4}$ hours
- B. $3\frac{1}{4}$ hours
- C. $1\frac{1}{4}$ hours
- D. $1\frac{3}{4}$ hours

14. Dan and his gas distribution crew have responded to the report of a gas valve failure. The valve failure resulted in $\frac{1}{3}$ of all the customers on the street to be without service. In order to repair the valve, the crew has to shut off the gas to 3 times as many customers on the street. What fraction of customers will be without service during this repair?

- A. $\frac{2}{3}$ of the street's customers
- B. $\frac{1}{9}$ of the street's customers
- C. All of the street's customers
- D. $\frac{1}{6}$ of the street's customers

15. Darren has $3\frac{2}{3}$ boxes of plastic gas fittings. The gas distribution crew has 8 customers requiring the installation of plastic pipe into their homes. What fraction of the plastic gas fittings will be divided among the 8 customers?

- A. $\frac{11}{24}$ of the fittings
- B. $\frac{1}{2}$ of the fittings
- C. $\frac{2}{3}$ of the fittings
- D. $\frac{3}{8}$ of the fittings

16. Gail and the line crew were pulling wire for a new subdivision. The crew had completed $\frac{5}{6}$ of a mile of the one-mile wire pull. How would the crew express how much line they completed, in decimal form?

- A. 8.33 miles
- B. 0.0833 of a mile
- C. 0.833 of a mile
- D. 0.00833 of a mile

17. Jane is performing oil level inspections on oil-fill substation transformers. The reading on the sight glass indicated 0.45 full. How would Jane report her findings as a percentage full?

- A. 4.5% full
- B. 0.045% full
- C. 45% full
- D. 0.45% full

18. Chun works in the store room. On the night shift, her job is to inspect all the fire extinguishers on the line trucks and replace any of them that are getting ready to expire or indicate low pressure. Chun had completed 52% of the inspections during the first night of her shift and had 48% to complete on the next night. How would Chun express what she had completed as a decimal?

- A. 0.48 of the inspections complete
- B. 5.20 of the inspections complete
- C. 0.052 of the inspections complete
- D. 0.52 of the inspections complete

19. Matt and the line crew are pulling wire for an overhead system upgrade. They have 220 feet of wire to pull. After the first two hours, they had pulled 60 feet. Sixty feet is what percentage of the entire job?

- A. 45%
- B. 27.3%
- C. 36.6%
- D. 30%

20. Kerri and her crew are setting a new pole. The angle of the boom on the pole setting truck is at 45 degrees, which limits the ability of the crane to pick up 60% of the entire 4,000-pound pole weight. What is the weight the truck can lift with the boom at a 45-degree angle?

- A. 1,600 lbs
- B. 1,800 lbs
- C. 2,400 lbs
- D. 4,000 lbs

21. Tom and his line crew are looking for a fault in a direct buried cable leading to a home. The crew has completed 30%, or 36 feet, using the pinpointer fault detection equipment. How many feet of the total cable will the crew be inspecting?

- A. 61 ft
- B. 108 ft
- C. 51 ft
- D. 120 ft

22. Chin has been asked to raise the plant spinning reserve to at least 200 MW to meet anticipated demand during the hot afternoon peak. His current spinning reserve is 120 MW. By what minimum percentage must Chin increase his spinning reserve?

- A. 270%
- B. 180%
- C. 167%
- D. 80%

23. Ramon notes that the addition of 200 gallons of #2 diesel fuel to backup generator diesel A's storage tank raises the level indicated in its sight glass by 40%. What should he estimate to be the volume of A's tank?

- A. 300 gallons
- B. 400 gallons
- C. 500 gallons
- D. 600 gallons

24. Sue has $1 \frac{1}{5}$ boxes of welding rod available for each of the 4 welders welding high-pressure steel gas mains. How many total boxes of welding rod does Sue have available?

- A. $1 \frac{4}{5}$ boxes
- B. $4 \frac{1}{5}$ boxes
- C. $4 \frac{4}{5}$ boxes
- D. 5 boxes

25. A 200,000-cubic-foot coal silo started the shift at $\frac{7}{8}$ full volume. During the shift, half of the total silo volume was used. How much, by fraction of volume, is left in the silo?

- A. $\frac{1}{2}$ total silo volume
- B. $\frac{1}{8}$ total silo volume
- C. $\frac{3}{8}$ total silo volume
- D. $\frac{5}{8}$ total silo volume