**Adding and Subtracting Fractions**

1. Eve, an engineering tech, is working with an overhead line crew doing thermal inspections of the line taps in an industrial park. The crew did 2/3 of the taps in one section of the park and 1/5 of the taps in a different section. What fraction of the taps has Eve and the crew inspected?

A. 2/15 of the taps

B. 3/10 of the taps

C. 13/15 of the taps

D. 3/4 of the taps

2. The line crew is running ground wires for overhead sensing insulators. The crew used 1/2 of a spool for one job, 1/4 of a spool for another, and 1/6 of a spool for the final job. What fraction of the ground line spool remains?

A. 11/12 of a spool

B. 1/3 of a spool

C. 1 1/3 of a spool

D. 1/12 of a spool

**Adding and Subtracting Mixed Numbers**

3. Zac is an electrician responsible for adding oil to network transformers. Zac has added the following amounts of oil to 5 network transformers: 1/2 of a gallon, 1/3 of a gallon, 1/4 of a gallon, 3/4 of a gallon, and 2/3 of a gallon. How many gallons of oil did Zac use to fill the 5 transformers?

A. 2 1/2 gallons

B. 1 1/2 gallons

C. 2 1/4 gallons

D. 2 8/12 or 2 2/3 gallons

4. 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 1/3 miles. In the second inspection period, the crew inspected 5 1/2 miles. After lunch, the crew inspected an additional 6 3/4 miles. How many miles of wire do René and the crew have left to inspect?

 A. 15 7/12 miles

B. 1 7/12 miles

C. 3 5/12 miles

D. 1 1/2 miles

**Multiplying and Dividing Fractions**

5. Transformer visual inspections take 1/3 of an hour to complete. Pete’s line crew has 10 inspections to complete. How many hours of inspections will the crew need for all 10 of the inspections?

A. 3 1/3 hours

B. 3 hours

C. 30 hours

D. 5 hours

6. Holly is a stock person who is responsible for restocking the overhead trucks at the end of the day. Holly has 1/2 of a case of fuses to divide among 6 overhead line distribution trucks. What fraction of the fuse case will be put on each of the trucks?

A. 1/12 of the case

B. 1/6 of the case

C. 1/3 of the case

D. 1/9 of the case

**Multiplying and Dividing Mixed Numbers**

7. Sarah and the overhead line crews are performing patroller inspections after a storm passed through a portion of the town. The crew has 5 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 1/3 miles

B. 1 1/2 miles

C. 1 2/7 miles

D. 2 2/3 miles

8. Gail has 5 1/4 gallons of oil that she will distribute evenly into 6 network transformers. What amount of oil will Gail add to each transformer?

 A. 3/4 of a gallon

B. 7/8 of a gallon

C. 1/8 of a gallon

D.1/6 of a gallon

**Independent Practice**

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

A. 1/12 of a case

B. 1/6 of a case

C. 2/7 of a case

D. 7/12 of a case

10. Lynne and her line crew were notified that down ground wires are missing from multiple poles in the town. The crews have to do a drive-by inspection, identify how many poles will need new down ground wires, and record their inspections in mileage inspected. The crews completed the following mileage of inspections: 1 3/4 miles, 5 1/2 miles, 3 1/3 miles, and 8 1/6 miles. How many miles did the crews inspect?

A. 17 3/4 miles

B. 18 miles

C. 18 2/5 miles

D. 18 3/4 miles

11. Sam is the head linesman for an overhead line crew that has been restoring power after a significant thunderstorm. His crew is on their way to the next job when he gets a call from Justin, a dispatcher. “Hi, Sam, this is Justin. We might need some additional help on the east side of town. How much time is the crew going to have left?” “We are 8 1/2 hours into our 16-hour shift,” Sam says. “We have four neighborhoods left: the Cascades, Whispering Pines, Middlebrook, and Stone Crest. Barring any setbacks and including travel time, we will spend

2 1/2 hours at the Cascades, 2 hours at Whispering Pines, 1 3/4 hours at Middlebrook, and 3/4 of an hour at Stone Crest.” If Sam’s crew cannot work more than 16 continuous hours, how much time does the crew have left to help with the east side of town?

A. 1 hour

B. 1/2 hour

C. 5/12 hour

D. 3/4 hour

12. 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 1/5 of an hour. How many hours will it take Tom’s crew to restore all the customers?

A. 10 1/5 hours

B. 10 hours

C. 10 2/5 hours

D. 10 3/5 hours

13. Darren has 3 2/3 boxes of 100-amp fuses on the line trucks, but the overhead line distribution crew needs 4 times as many boxes to respond to a significant power outage. How many boxes of 100-amp fuses does Darren have to get out of the warehouse to restock the line trucks as the overhead linemen requested? A. 14 2/3 boxes

B. 12 2/3 boxes

C. 14 1/3 boxes

D. 13 2/3 boxes

**14.** Enrique is restocking supplies in the 3 water testing stations and wants to distribute the 1/2 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. 1/3 of the case

B. 1/4 of the case

C. 1/5 of the case

D. 1/6 of the case

**Answer Key: Answers in Bold**

**Adding and Subtracting Fractions**

1. Eve, an engineering tech, is working with an overhead line crew doing thermal inspections of the line taps in an industrial park. The crew did 2/3 of the taps in one section of the park and 1/5 of the taps in a different section. What fraction of the taps has Eve and the crew inspected?

A. 2/15 of the taps

B. 3/10 of the taps

**C. 13/15 of the taps**

D. 3/4 of the taps

2. The line crew is running ground wires for overhead sensing insulators. The crew used 1/2 of a spool for one job, 1/4 of a spool for another, and 1/6 of a spool for the final job. What fraction of the ground line spool remains?

A. 11/12 of a spool

B. 1/3 of a spool

C. 1 1/3 of a spool

**D. 1/12 of a spool**

**Adding and Subtracting Mixed Numbers**

3. Zac is an electrician responsible for adding oil to network transformers. Zac has added the following amounts of oil to 5 network transformers: 1/2 of a gallon, 1/3 of a gallon, 1/4 of a gallon, 3/4 of a gallon, and 2/3 of a gallon. How many gallons of oil did Zac use to fill the 5 transformers?

**A. 2 1/2 gallons**

B. 1 1/2 gallons

C. 2 1/4 gallons

D. 2 8/12 or 2 2/3 gallons

4. 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 1/3 miles. In the second inspection period, the crew inspected 5 1/2 miles. After lunch, the crew inspected an additional 6 3/4 miles. How many miles of wire do René and the crew have left to inspect?

 A. 15 7/12 miles

B. 1 7/12 miles

**C. 3 5/12 miles**

D. 1 1/2 miles

**Multiplying and Dividing Fractions**

5. Transformer visual inspections take 1/3 of an hour to complete. Pete’s line crew has 10 inspections to complete. How many hours of inspections will the crew need for all 10 of the inspections?

**A. 3 1/3 hours**

B. 3 hours

C. 30 hours

D. 5 hours

6. Holly is a stock person who is responsible for restocking the overhead trucks at the end of the day. Holly has 1/2 of a case of fuses to divide among 6 overhead line distribution trucks. What fraction of the fuse case will be put on each of the trucks?

**A. 1/12 of the case**

B. 1/6 of the case

C. 1/3 of the case

D. 1/9 of the case

**Multiplying and Dividing Mixed Numbers**

7. Sarah and the overhead line crews are performing patroller inspections after a storm passed through a portion of the town. The crew has 5 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 1/3 miles**

B. 1 1/2 miles

C. 1 2/7 miles

D. 2 2/3 miles

8. Gail has 5 1/4 gallons of oil that she will distribute evenly into 6 network transformers. What amount of oil will Gail add to each transformer?

 A. 3/4 of a gallon

**B. 7/8 of a gallon**

C. 1/8 of a gallon

D.1/6 of a gallon

**Independent Practice**

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

A. 1/12 of a case

B. 1/6 of a case

C. 2/7 of a case

**D. 7/12 of a case**

10. Lynne and her line crew were notified that down ground wires are missing from multiple poles in the town. The crews have to do a drive-by inspection, identify how many poles will need new down ground wires, and record their inspections in mileage inspected. The crews completed the following mileage of inspections: 1 3/4 miles, 5 1/2 miles, 3 1/3 miles, and 8 1/6 miles. How many miles did the crews inspect?

A. 17 3/4 miles

B. 18 miles

C. 18 2/5 miles

**D. 18 3/4 miles**

11. Sam is the head linesman for an overhead line crew that has been restoring power after a significant thunderstorm. His crew is on their way to the next job when he gets a call from Justin, a dispatcher. “Hi, Sam, this is Justin. We might need some additional help on the east side of town. How much time is the crew going to have left?” “We are 8 1/2 hours into our 16-hour shift,” Sam says. “We have four neighborhoods left: the Cascades, Whispering Pines, Middlebrook, and Stone Crest. Barring any setbacks and including travel time, we will spend

2 1/2 hours at the Cascades, 2 hours at Whispering Pines, 1 3/4 hours at Middlebrook, and 3/4 of an hour at Stone Crest.” If Sam’s crew cannot work more than 16 continuous hours, how much time does the crew have left to help with the east side of town?

A. 1 hour

**B. 1/2 hour**

C. 5/12 hour

D. 3/4 hour

12. 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 1/5 of an hour. How many hours will it take Tom’s crew to restore all the customers?

A. 10 1/5 hours

B. 10 hours

**C. 10 2/5 hours**

D. 10 3/5 hours

13. Darren has 3 2/3 boxes of 100-amp fuses on the line trucks, but the overhead line distribution crew needs 4 times as many boxes to respond to a significant power outage. How many boxes of 100-amp fuses does Darren have to get out of the warehouse to restock the line trucks as the overhead linemen requested? **A. 14 2/3 boxes**

B. 12 2/3 boxes

C. 14 1/3 boxes

D. 13 2/3 boxes

**14.** Enrique is restocking supplies in the 3 water testing stations and wants to distribute the 1/2 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. 1/3 of the case

B. 1/4 of the case

C. 1/5 of the case

**D. 1/6 of the case**