## Section I — +/– Feet & Inches

3 7 7

1. 15′ 1″ – 5′ 4″ =

2. 12′ 4″ – 4′ 3″ =

3. 16′ 4″ – 9′ 11″ =

4. 17′ 4″ – 9′ 2″ =

5. 16′ 2″ + 12′ 3″ =

6. 9′ 10″ + 11′ 2″ =

7. 8′ 3″ + 14′ 4″ =

8. 8′ 11″ – 10′ 3″ =

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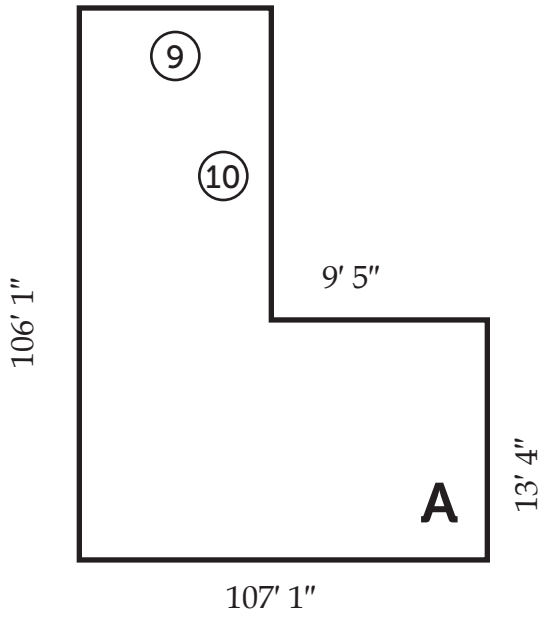
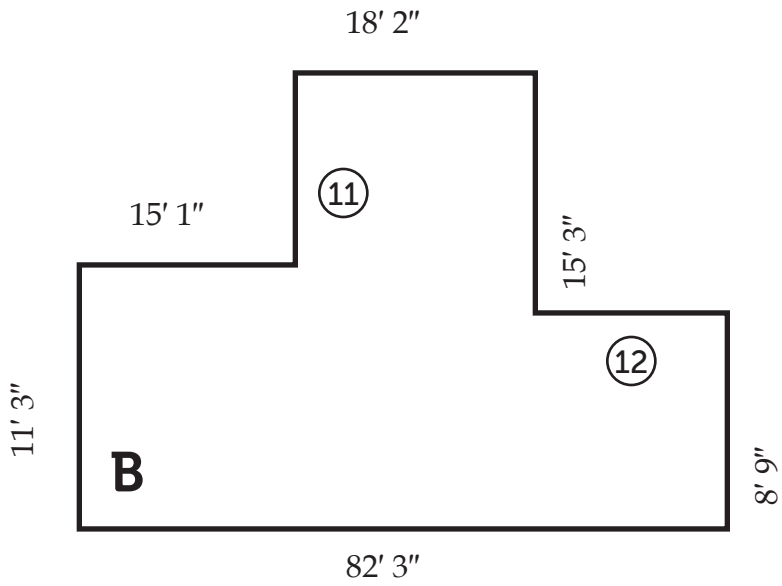
## Section II — Find the Missing Side & Perimeter




| Side | Length | Side | Length | Shape | Perimeter |
|---|---|---|---|---|---|
| 9 | | 11 | | A | 13 |
| 10 | | 12 | | B | 14 |

# Section III — Ruler Measurements

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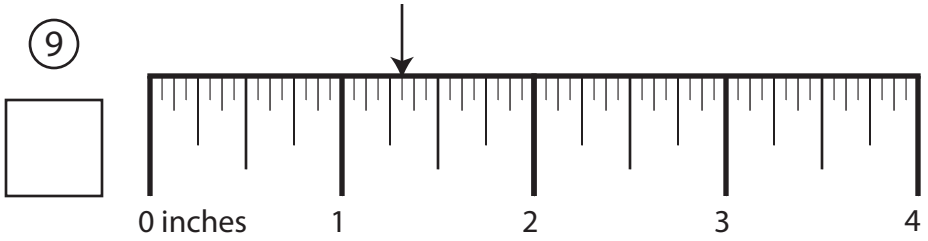
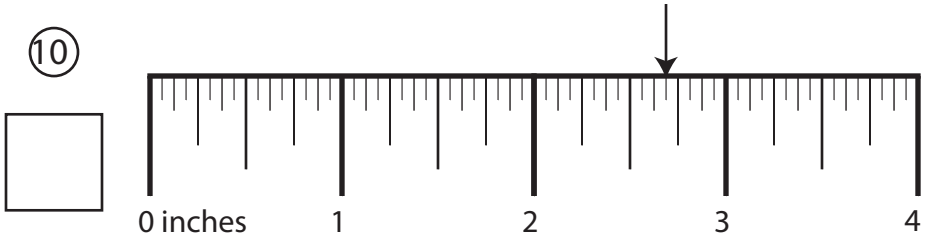
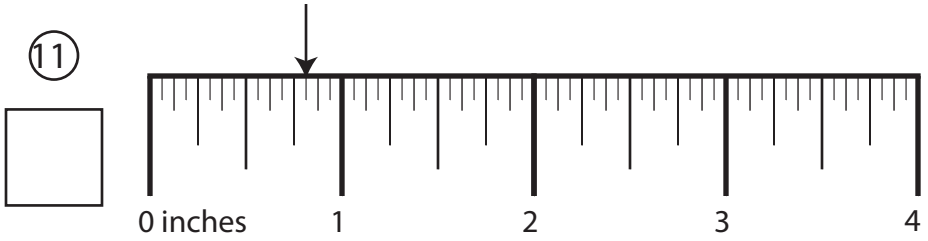
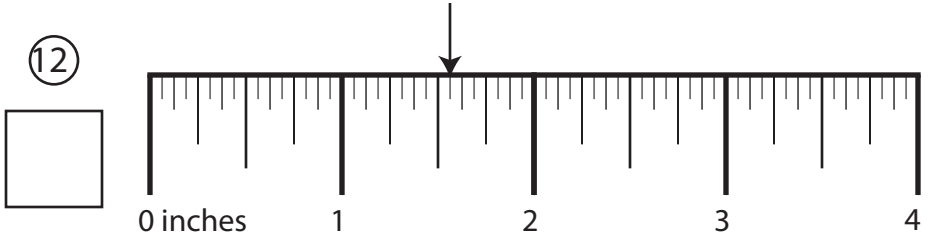
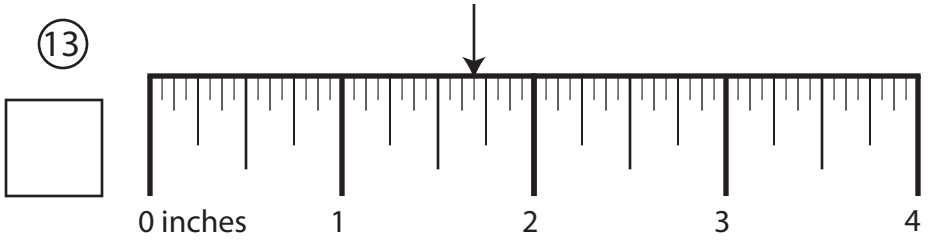
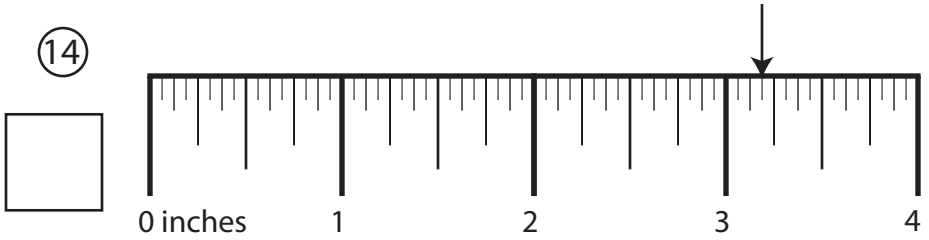
⑨ 

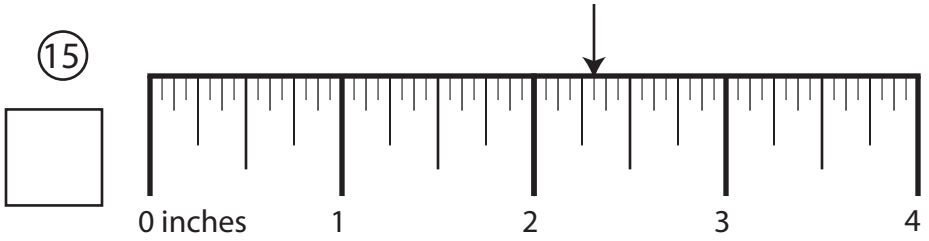

⑩ 

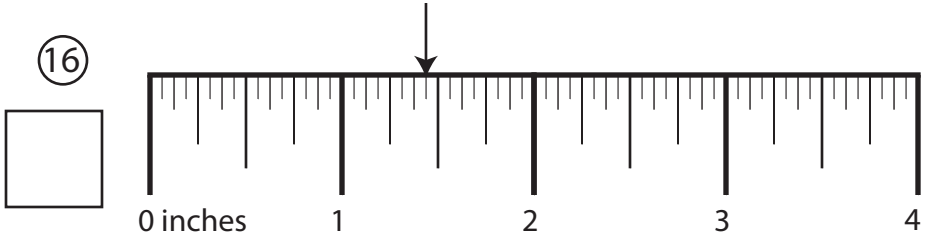

⑪ 


⑫ 


⑬ 


⑭ 


⑮ 


⑯ 

## Section IV — More/Less Than

3 7 7

23. What is ¼ less than 2 3/16?

24. What is 3/16 less than 4 1/16?

25. What is ½ less than 4 ¼?

26. What is ⅛ more than 1 ½?

27. What is 1/16 more than 5 3/16?

28. What is ⅜ more than 4 ½?

29. What is 1/16 more than 5 ⅜?

30. What is ⅛ less than 3 ¼?

# Section V — Nail Penetration & Screw Hole Bits

377

*How far will a ...*

31. 6 penny nail penetrate a 3″ green frame?

32. 3 penny nail penetrate a 4 ½″ green beam?

33. 4 penny nail penetrate a 3/8″ dry pole?

34. 20 penny nail penetrate a 3/4″ dry timber?

*What drill bit do you need to drill a ...*
[Remember, # or letter only, except 27/64, 14/32, 29/64]

35. clearance hole for a 14 gauge screw?

36. pilot hole for a 6 gauge screw?

37. countersink hole for a 3 gauge screw?

38. clearance hole for a 11 gauge screw?

# Section VI — Math Calculations

## 377

39. Aniline cycle, 1500 (lb/hr) flowrate, outside is 50°F, inside 69°F?

40. How many mmBTUs are generated by running a GV90+3 for 2 hours?

41. How many pounds of CO2 are released by burning Bituminous coal for 10 hours in a CGa-3?

42. How many mmBTUs are generated by burning 94 pounds of White Ash?

43. Ether cycle, 663 (lb/hr) flowrate, outside is 68°F, inside 63°F?

44. How many pounds of CO2 are released by burning 106 pounds of Balsam Fir?

45. How many pounds of CO2 are released by burning butane for 6 hours in a EVG 399?

46. How many pounds of CO2 are released by burning residual fuel oil (No. 6) for 8 hours in a AB-155C?

# Section VI — Math Calculations

## 377

47. How many pounds of CO2 are released by burning heating oil (No. 2) for 4 hours in a CGa-25?

48. How many mmBTUs are generated by burning 120 pounds of White Pine?

49. How many pounds of CO2 are released by burning kerosene for 4 days in a EG-50?

50. Room A's Wall #2, made of Gravel, if inside is 58°F and outside is 33°F?

51. How many mmBTUs are generated by burning 51 pounds of Hemlock?

52. Sodium hydrate cycle, 683 (lb/hr) flowrate, outside is 85°F, inside 59°F?

53. How many pounds of CO2 are released by burning kerosene for 6 hours in a ET 80-H?

54. How many pounds of CO2 are released by burning 332 pounds of Boxelder?

## Section VII — Blueprint Calculations

# 377

55. Shape D, Scale = 8, panel job.

56. Shape A, Scale = 50, caulking job.

57. Shape A, Scale = 48, pipe job.

58. Shape F, Scale = 50, carpet job.

59. Shape G, Scale = 30, tile job.

60. Shape K, Scale = 36, paint job.

61. Shape L, Scale = 35, molding job.

62. Shape N, Scale = 8, molding job.