

ANSWERS TO NUMERICAL PROBLEMS

Page 4. 1. 2,500,000 mm. 2. 299,804.97 km. 3. 32,400,000 sq. cm.
4. 29,921 in. 5. 1 cu. m. = 1,000 l. = 1,000,000 c.c. 6. 183.49 m. 7. 65.4 cents. 8. 9,697.5 kg. 9. The former. 10. 1,118.8 ft. (nearly). 11. 4.79 mm.

Page 12. 1. 1.47 kg. 2. 54.05 c.c. 3. 519.75. 4. 27 grams per c.c.
5. 12 kg. 6. 0.77 gm. per c.c. 7. (a) 7.29; (b) 6.61 tons. 8. 283.5, 0.5, 1.9, 7.1, 14.3 grams; 1,814.4, 453.6, 141.7, 142, 85.0, 28.3 grams. (Correct to first decimal place; accurate enough for photography).

Page 15. 1. $32\frac{1}{4}$ miles per hr. 2. $2,898\frac{1}{8}$ miles. 3. 88 ft. per sec.
4. 108 km. per hr. 5. 11 miles per day. 6. 1 mile per day.

Page 17. 1. 24 ft. per sec.; 12 sec. 2. 1,960, 7,840, 19,600 cm. per sec.
3. 10 sec. 4. 28 ft. per sec. upwards, 4 ft. per sec. downwards, 36 ft. per sec. downwards; $3\frac{1}{2}$ sec. 5. $-\frac{1}{2}$ ft. per sec. per sec.

Page 19. 1. 112 ft. per sec.; 196 ft. 2. 66 ft. per sec.; $2\frac{1}{8}$ sec.; $68\frac{1}{8}$ ft.
3. 225 sec.; $8,437\frac{1}{2}$ ft. 4. 16, 64, 144, 256, 400 ft.; 16, 48, 80, 112, 144 ft.

Page 20. 1. 4 ft. per sec. 2. 1,000 cm. per sec. 3. 192 ft. or 58.8 m. per sec.; 576 ft. or 176.4 m. 4. 190 cm. per sec. 5. 128 ft. per sec. 6. 7.82 sec.; 4.37 sec. (approx.). 7. 864 ft.; 36 sec. 8. $\frac{1}{2}$ ft. per sec. per sec.

Page 22. 1. Man's = $\frac{1}{9}$ times boy's. 2. Car's = $\frac{1}{3}$ times cannon-ball's. 3. Pebble's = $\frac{1}{3}$ of weight's.

Page 24. $2\frac{1}{2}$ ft. per sec.

Page 26. 2. 11.73 (nearly) ft. per sec. 3. 60 ft. per sec.

Page 30. 1. Doubled; yes. 2. $44\frac{1}{2}$, 25, 16 kg.

Page 32. 1. 1,000 gram-metres or 1 kilogram-metre. 2. 1,800 ft.-pds.
3. 50,000 ft.-pds. 4. $\frac{1}{3}$ kg.-m. 5. 150,000 ft.-pds. 6. 528,000 ft.-pds.

Page 35. 1. $12\frac{4}{5}$ h.-p. 2. $7\frac{4}{5}$ h.-p. 3. 53.6 (nearly) h.-p.

Page 40. 5. 5 ft.

Page 44. 1. 9; 450 pds. 2. 15 oz. 3. $37\frac{1}{2}$ pds.

Page 45. 1. 56 pds. 2. 160 pds.

Page 48. 1. $1\frac{1}{2}$ pds. 2. 90 pds., 120 pds. 3. 225 pds.

Page 59. 1. $312\frac{1}{2}$ g. 2. 800 kg. 3. 11,550 pds. 4. 10,000. 5. 36 kg.

Page 62. 1. 62.3 pds.; 97.7 pds. 2. 4.57 pds. 3. 2.5 kg. 4. 4.9 g.
5. 600 g. 6. $\frac{1}{2}$.