

SBA

Grade 9

**Answers to
Mathematics
Practice**

N-1

- a.) 3,010,000
b.) 0.000017
- (c) 9.3×10^7
- 6.45×10^9 2.96×10^8
- 602,000,000,000,000,000,000,000

N-2

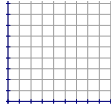
- (c) Add exponents: $2 + 3 + 1$ ($5 = 5^1$) answer is 5^6
- (a) Add exponents $2 + 3 = 5$, and get $\frac{3^4}{3^5}$ which is $\frac{1}{3^1} = \frac{1}{3}$
- Reduce $\frac{12}{6}$ and add exponents $3 + 6$ to get $\frac{2x^9}{x^7}$,
subtract exponents $9 - 7$ and get answer $2x^2$

N-3

- (b) $|-2| + |7| = 2 + 7 = 9$
- a.) -6.25 b.) 13 c.) 78
- (a) $9 - \frac{48}{-16} = 9 -^{-}3 = 9 + 3 = 12$

N-4

1. $\sqrt{81} = 9 \text{ feet}$



2. $5 \cdot 5 = 25 \text{ sq. ft.}$

$25 \cdot 50 = 1250 \text{ sq. ft.}$



5 times 50 (50 sections like this)

5

- a.) 11 b.) 7 c.) 15 d.) 1 e.) 12
- a.) 36 b.) 64 c.) 625 d.) -16 e.) 16

N-5

1. $6 - 4(8) = 6 - 32 =^{-}26$

2. $\frac{^{-}3(^{-}5)}{^{-}5} = \frac{15}{^{-}5} =^{-}3$

3. $3 + 2x - 10 = 2x - 7$

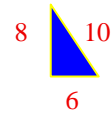
4. (b) $3x + 100(5 + 4x) = 3x + 500 + 400x = 403x + 500$

MEA-1

- a.) 5000 meters b.) $5000 \times 3.28 = 16,400$ feet
- b.) $600 \div 3.28 \approx 182.9268 \approx 183$ meters
- a.) $600 \cdot 3.28 = 1968$ feet

MEA-2

- Use the Pythagorean theorem: $a^2 + b^2 = c^2$, $8^2 + 6^2 = 10^2$ yes
 $64 + 36 = 100$



- a.) $a^2 + b^2 = c^2$ (5, 12, 13 right triangle)
 $5^2 + 12^2 = 25 + 144 = 169$

$$\sqrt{169} = 13 \text{ yards}$$

- c.) $a^2 + b^2 = c^2$ (3, 4, 5 right triangle)
 $33^2 + b^2 = 55^2$
 $b^2 = 3025 - 1089$
 $b^2 = 1936$
 $b = 44''$

E&C-1

- a.) \$4 and 3 pounds
b.) $4 \times 3 = \$12$
c.) Our estimate is greater than the real amount. Both of our estimates are higher than the actual amounts, therefore, our answer will be greater than the actual cost.
- a.) Higher $\frac{3}{4} > \frac{5}{8}$ b.) Lower $\frac{1}{2} < \frac{5}{8}$
- a.) 365 b.) 24
c.) $370 \times 20 = 7,400$ estimate is higher by 5×24 and lower by 4×365 , so the estimate is lower. ($365 \times 24 = 8760$)

E&C-2

- b.) $-15.25 + 9 - 16 = -22.25$
- b.) $49 + 81 - 3.9 = 126.1$
- $\left(\frac{2}{3} + \frac{1}{4}\right)^2 = \left(\frac{8+3}{12}\right)^2 = \left(\frac{11}{12}\right)^2 = \frac{121}{144}$

E&C-3

- c.) $864.2 \div 8 = 108.025$
- a.) $-2.09 \times 9 = -18.81$
- d.)
- a.)

E&C-4

1. A (b) $\frac{372 \text{ miles}}{6 \text{ hours}} = 62 \text{ mph}$

B (a) $\frac{372}{6} = \frac{155}{x}$
 $x = 2.5 \text{ hrs.}$ or $155 \div 62 = 2.5$

2. (c) $\frac{65 \text{ miles}}{1 \text{ day}} = \frac{520 \text{ miles}}{x \text{ days}}$
 $x = 8 \text{ days}$ or $520 \div 65 = 8$

3. (b) $\frac{\$228}{4 \text{ days}} = \frac{\$x}{9 \text{ days}}$
 $x = \$513$ or $\$228 \div 4 = \57
 $\$57 \cdot 9 = \513

F&R-1

1. 24, 35, $n^2 - 1$

The nth term is found by squaring the number of the term and subtracting 1.

2. 21, 34, 55,

The nth term is found by adding the two previous terms.

3. a.) first week = \$1.27

b.) 10th day = \$5.12

c.) Each day Hollister receives twice the amount from the previous day. (Hollister will clean up if he makes it through the first couple of weeks.)

F&R-2

1. c

2. c

3. c

F&R-3

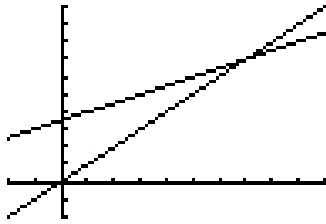
1. The area is quadrupled – multiplied by 4.

2. The volume changes from $\frac{32}{3}\pi$ to 36π .

3. The area changes from 36 to 9 square units; it is a 1/4 of the original area.

F&R-5

1. c



2. The flowers will be the same height on the seventh day.

3. $2s + 1p = 55$ $1s + 2p = 65$ $s = \$15$; $p = \$25$ $s + p = \$40$

F&R-6

1. $x = -9$

2. $x = 9$

3. $x = -\frac{1}{9}$

F&R-7

1. $t = \frac{d}{r}$

2. $T = \frac{PV}{nR}$

3. $m = \frac{F}{a}$

G-1

1. (a)

2. False

3. True

4. True

5. $140 + 85 + 60 + 46 = 331$ $360 - 331 = 29^\circ$

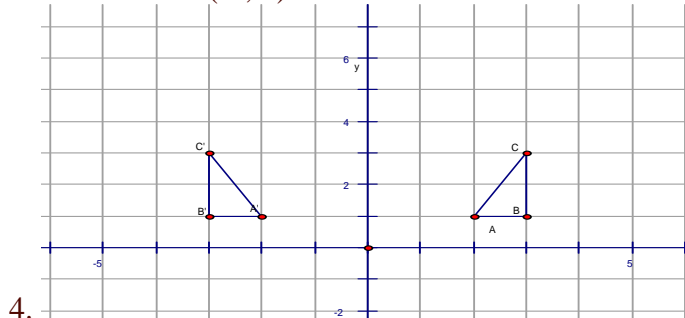
6. (c)

G-2

1. B

2. No, because the sides are not proportional.

3. C' should be (-1, 7) which is choice D.



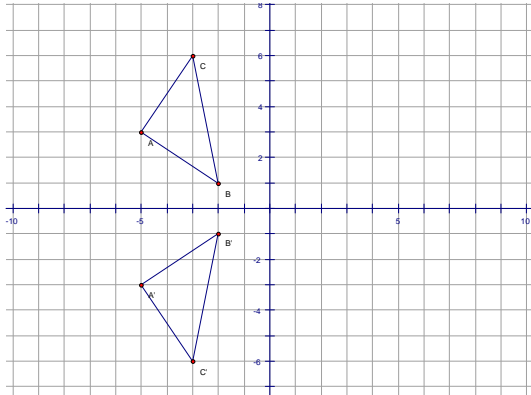
4.

5. C

G-3

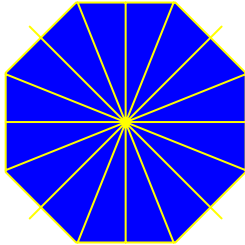
1. (d) $(-3 + 7, 5 - 10) = (4, -5)$

2.



3. (b) congruent

4.

**G-4**

1. (a)

2. (d)

3. $S.A. = 2 \times 5 \times 3 + 2 \times 5 \times 3 + 2 \times 3 \times 3 = \underline{78 \text{ in}^2}$

G-5

1. (c)

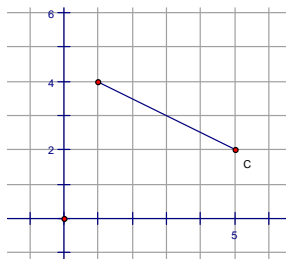
2. $A = (4, 1)$ and $B = (7, 5)$

3. $m = \frac{y_1 - y_2}{x_1 - x_2}$

4. (d)

5. $\frac{4 - 2}{1 - 5} = \frac{2}{-4} = -\frac{1}{2}$

6. (c)



S&P-1

1. d
2. a
3. c

S&P-2

1. c
2. b
3. d
4. b

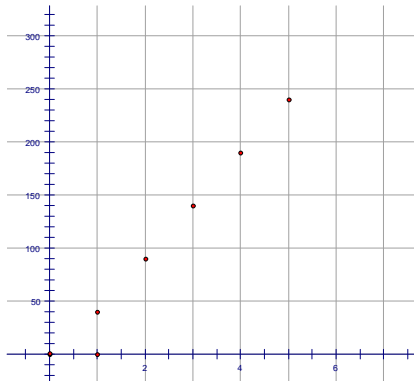
S&P-3

1. (b)
2.

	<u>Mean</u>	<u>Median</u>	<u>Mode</u>	<u>Range</u>
Car A	30.78	30.6	none	6.3
Car B	30.24	31.2	28.7 & 31.3	2.6
3. They should use the mean value because it is the highest.

S&P-4

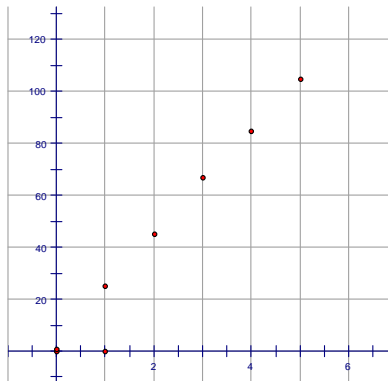
1.



2. Every hour increases by 50 miles, so 7 hours = 340 miles

3. B Explanations will vary.

4.



5. Every hour increase by about 20, so 8 hours = 165 gallons.

S&P-5

1. (a) ($2/8 = 1/4$)
2. (b)
3. (d) (Three aces left of a total of 51 cards)

S&P-6

1. (c) (6 50's in 300, so $6 \times 3 = \underline{18}$)
2. (a) (5 black socks per 10 draws, so $5 \times 2 = \underline{10}$)
3. (d) ($15/50 = 0.30 = 30\%$)